Occupational Mapping
Namibian Fishing and Maritime Industry

Phase One

Commercial Fishing Industry
&
Ports and Harbours

April 2012

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Abbreviations and acronyms

DMA	Directorate of Maritime Affairs
ECDIS	Electronic Chart Display and Information System
FOA	Fisheries Observer Agency
GMDSS	Global Maritime Distress and Safety System
GMP's	Good Management Practises
HACCP	Hazard Analysis Critical Control Point
IAC	Inland Aquaculture Centre
IMO	International Maritime Organisation
ISC	Industry Skills Committee
MFMR	Ministry of Fisheries and Marine Resources
MTI	Ministry of Trade and Industry
MWT	Ministry of Works and Transport
NAMFI	Namibian Maritime and Fisheries Institute
NatMIRC	National Marine Information and Research Centre
NSI	Namibian Standards Institution
NTA	Namibia Training Authority
NQA	Namibia Qualifications Authority
NQF	National Qualifications Framework
RAS	Recirculation Aquaculture System
SADC	Southern African Development Community
SHREQ	Safety Health Risk Environment Quality
STCW	Standards of Training, Certification & Watchkeeping Convention

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Executive Summary

This report has been commissioned by the NTA to facilitate the process for the provision of an occupational map for the Fishing and Maritime Industry in Namibia. The map is to give an overview of present and future occupations in this industry, and the skills levels and competencies required, including a summary of current skills gaps by occupation and (NQF) levels.

The Fishing and Maritime Industry Skills Committee, due to the size of this sector, agreed to focus this Occupational Mapping exercise on the core activities of Fisheries, namely comprising the Commercial Fishing Industry, as well as Ports and Harbours. Consequently, this report represents "Phase One", in terms of assessing the entire sector.

Industry priorities as outlined in this occupational map, highlight the existing training needs and skills gaps in the fisheries and maritime sectors. The consultants designed this occupational map to provide a tool specifically aimed at fast-tracking the national unit standards and qualification development process that follows this study.

Commercial Fishing

Marine Capture Fishing

In the area of ***demersal fishing***, where fish stock numbers and total allowable catches are on the increase, more jobs will become available across the board in the future, with resultant additional training demands.

In ***pelagic fishing****, ve*ssel crews, particularly in the small pelagic sector, are primarily a younger generation with good skills. Here, NAMFI training has been valuable in namibianising the local small pelagic fleet and maximising competitiveness. In the large pelagic sector there will be emphasis on Namibianising the pole and line tuna sector in the immediate future, with consequent training needs requirements. It is envisaged that in the next decade, there will be a need for trained Namibian surface long line vessel crews, to compete with foreign vessels.

In ***midwater trawl fishing***, greater Namibian fishing and maritime skills capacity on midwater trawl (horse-mackerel) vessels are required – particularly in top-level positions, where foreigners currently fill 35% of jobs. This fishery is also experiencing an upsurge in fish stocks, resulting in increases in total allowable catches, which will create expansion of the sector.

Crew of Russian and Eastern European origin who are highly qualified, but do not demand high payment currently operate these Russian vessels. This makes it hard to attract qualified local personnel into these positions.

Moreover, NAMFI will require additional support to provide demand-oriented training for qualifications in top positions on the large horse mackerel vessels since Namibian midwater trawl fishing companies are currently having to send trainees to Russian Maritime schools at great expense.

Aquaculture

Development of ***aquaculture*** in Namibia is a key government priority because of the potential to enhance food security, reduce poverty, generate employment, and improve rural livelihoods; as well as generate foreign currency earnings. A determined process of human skills capacity building is required here, as limited training currently exists in this emerging sector.

Commercial activities in the area of **m*ariculture*** will benefit from a long list of competencies to be trained. Starting from basic literacy, numeracy and language skills, to learning the in-house procedures of closing chillers and cold store doors, covering and wetting oysters in hot weather, basic food hygiene, understanding the effects of time temperature and trauma on live animals, and mechanical training on pumps and outboard engines.

Freshwater aquaculture also identified a list of skills shortages for this sub-sector to function effectively, including training in production techniques and extension methodologies, fish marketing, processing and quality assurance, and other aspects relating to the business of producing and selling fish. Key positions should be filled within 5 – ten years.

Seafood Processing

In the Seafood *Processing "**Demersal"**(Onshore and offshore) sector, sub-sector **Filleting & Fishmeal***, value addition in the demersal fisheries requires better technical expertise to manufacture fishing products - both directly inside processing factories, and by support services looking after factory machinery.

Good marketing and strategic personnel are required, to ensure profitability from value addition. Namibia needs qualified Namibians in the marine technical and mechanical fields.

With reference to the ***Onshore "Pelagic" Seafood Processing*** *sector*, in the sub-sector Canning, Filleting, Loins, Steaks & Fishmeal made from pelagic fish, lack of ongoing supply of people with expertise to achieve specific canning requirements in the *small pelagic sector*, is a concern.

The *large pelagic sector*s moving towards greater value addition of the product, and likewise requires more technical expertise to manufacture fish product both directly inside processing factories, as well as supporting services looking after factory machinery.

In terms of ***Off-shore Seafood Processing***, **midwater trawl** horse mackerel is currently all processed at sea as frozen whole product, with some turned into fishmeal.

There was in the past experiments to value add by filleting the fish but at the time this was not successful. Continued exploratory efforts to value add product will be required, greater employment being an outcome of this.

Maritime

Ports and Harbours

Overall there is a need more expertise "depth" – there are not enough people with necessary expertise in many positions.

Ports and Harbours has identified key training needs in departments relating to maritime activities, including:

- Marine sub-sector dealing with port and harbour operations;
- Bulk & Breakbulk sub-sector, dealing with cargo of fuel, fish, sulphur and general cargo;
- Container Terminal (containerised cargo);
- Engineering (port engineering including growth, statutory, and maintenance projects);
- Technical Services supporting the port;
- Syncrolift (dry dock facility).

Regulatory Authorities

Regulatory compliance involves industry complying with:

- Fisheries Inspectors from the Ministry of Fisheries and Marine Resources;
- Fisheries Observers from the Fisheries Observer Agency in terms of monitoring, control and surveillance;
- Ship Surveyors from the Directorate of Maritime Affairs in terms of safety and environment, including radio communications;
- The IMO STCW Convention through the Directorate of Maritime Affairs;
- Export seafood safety compliance monitored through the Namibian Standards Institution, supported by NatMIRC scientists from the Ministry of Fisheries and Marine Resources in the mariculture sector who monitor water quality and potential harmful algal blooms in terms of their impact on shellfish seafood safety.

Interviewees have identified a broad range of further training needs in order to sustainably manage the living aquatic resources and to be able to provide services with full commitment in line with the needs and desire of their clients and stakeholders.

Training Provider

The Namibian Maritime and Fisheries Institute (NAMFI) provide training for both the Commercial Fishing Industry and Ports and Harbours, as indicated in this section of the report. The training does not extend to senior maritime qualifications, such as is required on the large vessels in the "Midwater Trawl" fishing sector.

NAMFI training appears to have a number of shortcomings in the "Demersal" fishing sector, namely:

- The certificate is not recognised outside Namibia;
- Many of the seamen try to get the qualification but cannot pass the NAMFI tests;
- Graduates from NAMFI often lack the necessary Maths knowledge.

Namport suggested that to strengthen the role of NAMFI as a training provider, Namport could provide guidance expertise. This would best occur through the formation of a committee involving Directorate of Maritime Affairs, NAMFI, Namport, and the Fishing Industry. Contact would then be made to the International Maritime Organisation with the intention of strengthening STCW Convention training capacity. It is hoped that the IMO, or a funding agency such as the European Union could then assist with funding to facilitate the process of these bodies working jointly to improve the necessary competencies required to strengthen NAMFI capacity to the benefit of all sectors.

General Findings

Generic skills gaps / shortages:

- Basic literacy and numeracy are lacking;
- Communication skills are required in English and Afrikaans;
- Beside Technical and Engineering skills, Maths and Science skills are lacking across all sectors;
- Mismatch of entry qualification requirements into industry – the feeling is that often current Grade 10 graduates are not equipped with the necessary knowledge and skills to enter work in the commercial sector. Hence one often sees the entry level qualification requirement being Grade 12 – especially in the aforementioned areas of literacy, numeracy, communication, maths and science.

ISC Meeting of 16 April 2012

It was acknowledged that the figures provided by companies that responded to questionnaires, were indicative only, and may not truly reflect industry skills shortages. Appendix 7 covering licensed vessel details per fishery and manning requirements for vessels, as well as Appendix 8 providing footnotes to the April meeting have been added to the report. This is to help provide more perspective to the ISC when analysing the report, and prioritising for future training needs.

Background

The Namibian fishing industry is one of the top performers of the Namibian economy, directly employing over 13,000 people. When considered holistically (from boat to belly), it is a diverse industry, covering a maritime component, onshore and offshore fish processing component, and a developing aquaculture component.

It is also a food industry with all the associated food safety skills requirements, particularly as it is primarily an export industry, mostly to first world countries with strict regulatory requirements which the Namibian fishing industry must comply with.

In addition it is an industry driven by seafood quality - where fishermen, as soon as the fish comes aboard the vessel, must treat it with care. This responsibility is then passed on to those processing the fish into final product forms; either on shore or at sea, along the value chain to the end consumer.

This report details the skills needed at each stage of the process to ensure delivery of a high value, high quality product. This meant an emphasis on hazard analysis critical control point (HACCP) food safety procedures, getting fisherman, fish processors etc. to understand that they are dealing with a valuable food, not fish.

In this report we have take a wide view of the fishing industry to include wild catch fishing, aquaculture, fish processing, and fisheries compliance.

Ports and Harbours currently controlled through the Namibian Ports Authority, which directly employs over 700 people, plays a key trade facilitating function, and consequently is central to the further development of the Namibian economy.

Industry Skills Committees (ISCs), among which counts the Fishing and Maritime Industry ISC, have been established as standing committees of the NTA Board, to ensure that unit standards, qualifications, and training programmes developed by the NTA are based on the *current and future needs of industries*. Every ISC represents an industry with essential and unique occupations and skills.

Currently, ISCs are tasked with drawing up a statement of priorities in terms of job requirements and competencies in various skill levels and occupations within those industries. This requires developing an occupational map for each industry and evidence (quantitative and qualitative) of major gaps in skills, qualifications and training provision currently available in the labour market.

This report has been commissioned by the NTA to facilitate the process for the provision of an occupational map for the Fishing and Maritime Industry in Namibia. The map is to give an overview of present and future occupations in this industry, and the skills levels and competencies required, including a summary of current skills gaps by occupation and (NQF) levels.

Objectives and Scope

The overall objective of this report is to provide the ISC with information and evidence to allow it to make informed decisions about priorities for the development of learning materials - including unit standards, qualifications and training programmes to meet the long-term needs of this industry.

The Fishing and Maritime Industry Skills Committee, due to the size of this sector, agreed to focus this Occupational Mapping exercise on the core activities of Fisheries, namely comprising the Commercial Fishing Industry, as well as Ports and Harbours. Consequently, this report represents “Phase One”, in terms of assessing the entire sector.

The development of an occupational map is an important first stage in the process of developing a national framework as it analyses the professional areas covered in the fishing and maritime industry. In particular, it examines the structure of the professional area and the occupations within it, and explores current and future skills requirements.

The next stage, important for the later development of occupational standards, is to identify key work activities, which are carried out within the various sectors of fishing and maritime operations. These broadly identified outcomes are reflected in a functional map.

As part of an international benchmarking process, the functions and competencies required are identified and associated with levels of employment and/or positions. This will provide the basis for occupational standard development at a subsequent stage.

Approach and Methodology

In accordance with the Terms of Reference, the project team consulted with key industry organisations, regulatory authorities and individual companies to project a situational analysis of the Namibian fishing and maritime industry in terms of skills shortage and requirements, presently and in future.

Approach

The project approach was based on maximum stakeholder consultation and followed the guidelines of NTA in developing an Occupational Map.

The project team further used international, regional and local benchmarking to ensure that identified skills and competencies are on par with similar skills, training developments and industry realities elsewhere.

Methodology

Continuous consultation and feedback with and to stakeholders occurred. The methodology being applied followed a participatory process that includes a deductive (top down - international best practice theories) and inductive approach (bottom up approach –meetings and workshops with key stakeholders in Walvis Bay).

The project team started out by benchmarking occupational jobs in the Fishing and Maritime industry in different countries, including:

- South Africa
- United Kingdom
- Australia
- New Zealand.

The document listed a range of sectors and specific competencies within different sectors, and was presented to industry stakeholders attending the first consultation meeting in Walvis Bay, as a basis and reference to work from.

Following the meeting, the Fishing Industry and Namport (the latter representing the Ports and Harbours industry) submitted job descriptions, job skills requirements and organograms, which helped inform a common understanding of what different jobs, require and involve.

The project team then presented this information to stakeholders at a follow-up workshop, to develop a profile of each job in the Namibian context. This included validation of the identified competencies and identified skills gaps in the industry.

Questionnaires were then sent out to stakeholders to identify:

- Job positions employed, and how many people in each position
- Validation of qualifications each position required.

In addition, for each job position, stakeholders were asked whether there were current skills shortages, and looking to the future, whether there would be shortages, firstly in five years and secondly in 10 years.

Questionnaire respondents were then asked for their specific sectors, what their key priorities were in terms of training needs and development.

Respondents were also asked to align identified job profiles with NQA level descriptors – although while a few respondents did so, the majority of jobs / NQA level descriptors were aligned by the project team.

The results of the above desk research, workshops, questionnaire surveys, and interviews with key stakeholders to obtain the necessary occupational mapping information, are detailed by sector in the following pages.

This information will be used as a guide for the next step in a future project, namely to develop occupational standards (unit standards) and competency-based curricula for training purposes.

Key Informants

Key stakeholders identified by the project team and industry that helped inform and guide activities to develop the Occupational Framework exercise, included:

- Namibia Training Authority;
- Confederation of Namibian Fishing Associations;
- Ministry of Fisheries and Marine Resources;
- Directorate of Maritime Affairs, Ministry of Works and Transport;
- Namibia Ports Authority (NAMPORT);
- Namibian Maritime and Fisheries Institute (NAMFI);
- Namibian Standards Institute (NSI);
- Fisheries Observer Agency (FOA);
- Individual companies, both in the fisheries and aquaculture sectors.

International Convention

In Namibia, the key relevant Act of Parliament guarding Fisheries, is the Merchant Shipping Act, 1951. Important regulations include Manning of Ships Regulations (No. 240, 2003), and Education, Training and Certification of Namibian Seafarers Regulations (No. 41, 2004).

Namibia is a party to the Standards of Training, Certification & Watchkeeping (STCW) Convention of the International Maritime Organisation (IMO) – drafted in 1978 and amended in 1995 when a STCW Code was established that set stringent standards for mariners.

The Convention seeks to establish a baseline standard for the training and education of seafarers throughout the world and, by emphasising quality control and competence-based training, it establishes a structure that can ensure not only that the required standard is met, but that it is seen to be met.

Unlike the original 1978 Convention, the 1995 Amendments required separate certification that the mariner met the requirements. The STCW Certificate was the result. Member countries (administrations) are tasked by the IMO to incorporate a statement of compliance with the STCW Code into their Certificate of Competency (license). In order to be considered a "white list" or fully compliant country, the IMO requires each administration to guarantee that proper supervision has been and is continuously performed for each school issuing training certificates.

The White List identifies the countries that have demonstrated a plan of full compliance with the STCW Convention and Code as revised in 1995. The White List was developed by an unbiased panel of "competent persons" at the IMO. The criteria used to develop the list, included the system of certification (licensing) used in each administration, the process of revalidation for certificates, training centre oversight, port state control and flag state control.

Port and Flag State Control are key elements in fulfilling the revisions of the STCW Code. Port State Control is the authority on administration, and has vessels operating within its waters (jurisdiction) regardless of Flag. In a nutshell, Port State Control takes responsibility for supervision and inspections conducted by the administration of the port, on vessels entering its port. Flag State Control is the authority an administration has over vessels with their own registration (flag) regardless of where they are operating.

Parties to the Convention, including Namibia, are required to provide detailed information to IMO concerning administrative measures taken to ensure compliance with the Convention, education and training courses, certification procedures and other factors relevant to implementation.

The codes for STCW compliant licenses or certificates are broken into sections, departments and levels. The departments would include Deck, Engineering, etc. Generally there are three levels of service: Management (Masters, Chief Mates, and Chief Engineers), Operational (Mates & Assistant Engineers) and Support (Ratings).

Safe Manning Documents list the required crew and officers in the form of STCW Codes for the license level they must hold to satisfy Flag State manning regulations for a vessel.

Below are samples of STCW competencies derived from the STCW 95 Convention and Codes respectively. They are dependent on the level of responsibility of the position.

STCW Code - **Table A-II/1:**
Specification of minimum standards of competence for officers in charge of a navigational watch on ships (500 gross tonnage or more)

Function	Competence
Navigation at operational level	• Plan and conduct a passage and determine position • Maintain a safe navigational watch • Use of radar and APRA to maintain safety of navigation • Respond to emergencies • Respond to a distress signal at sea • Use the Standard Marine Navigational Vocabulary • Transmit and receive information by visual signaling • Manoeuvre the ship
Cargo handling and stowage at the operational level	• Monitor the loading, stowage, securing, care during the voyage • Inspect and report defects and damage to cargo spaces
Controlling the operation of the ship and care for persons on board at the operational level	• Ensure compliance with pollution-prevention requirements • Maintain seaworthiness of the ship • Prevent, control and fight fires on board • Operate life-saving appliances • Apply medical first aid on board ship • Monitor compliance with legislative requirements

STCW Code - **Table A-III/1:**
Specification of minimum standards of competence for officers in charge of an engineering watch in a manned engine-room or designated duty engineers in a periodically unmanned engine-room

Function	Competence
Marine engineering at the operational level	• Use appropriate tools for fabrication and repair operations typically performed on ships • Use hand tools and measuring equipment for dismantling, maintenance repair and re-assembly of shipboard plant and equipment • Use hand tools, electrical and electronic measuring and test equipment for fault finding, maintenance and repair operations • Maintain a safe engineering watch • Use English in written and oral form • Operate main and auxiliary machinery and associated control systems • Operate pumping systems and associated control systems
Electrical, electronic and control engineering at the operational level	• Operate alternators, generators and control systems
Maintenance and repair at the operational level	• Maintain marine engineering systems, including control systems
Controlling the operation of the ship and care for persons on board at the operational level	• Ensure compliance with pollution-prevention requirements • Maintain seaworthiness of the ship • Prevent, control and fight fires on board • Operate life-saving appliances • Apply medical first aid on board ship • Monitor compliance with legislative requirements

The International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel, 1995 (STCW-F 1995), sets the certification and minimum training requirements for crews of seagoing fishing vessels of 24 metres in length and above. It is set to enter into force on 29 September 2012, after the required 15 ratifications were reached on 29 September 2011. Namibia is one of the countries that have ratified the Convention.

The STCW-F Convention is the first to establish basic requirements on training, certification and watchkeeping for Fishing Vessel Personnel on an international level. It aims to improve the quality of education and training provided to personnel employed in fishing vessels; and enhance the standard of training and safety in the fishing industry and fishing vessel fleets.

The Convention consists of 15 Articles and an annex containing technical regulations in four chapters:

Chapter I: Contains General Provisions;
Chapter II: Deals with Certification of Skippers, Officers, Engineer Officers and Radio Operators;
Chapter III: Deals with basic safety training for all fishing vessel personnel; and
Chapter IV: Deals with watch keeping.

Additional useful documents include a report entitled Document for Guidance on Training and Certification of Fishing Vessel Personnel, with particular reference to relevant resolutions of the STCW-F Convention, covering training and certification of small-scale and industrial fishermen, and was approved by FAO, ILO and IMO in 2000 and published on behalf of the three organizations by IMO in 2001.

IMO has developed, in collaboration with FAO and the ILO, a number of non-mandatory instruments. These include the revised Code of Safety for Fishermen and Fishing Vessels, 2005, and the Voluntary Guidelines for the Design, Construction and Equipment of Small Fishing Vessels, 2005.

The revised Fishing Vessel Safety Code and Voluntary Guidelines - originally developed and approved in the 1970s - have been developed for use primarily by competent authorities, training institutions, fishing vessel owners, fishermen's representative organizations and non-governmental organizations having a recognized role in fishermen's safety and health and training.

Part A of the Code provides guidance on the development of national codes and fishermen's education and training manuals and guidance on the safety and health of fishermen. Competent authorities are encouraged to make use of the contents of the Code and the Voluntary Guidelines in the production of safety and health and training materials in an appropriate format to suit the particular needs of the fisheries of the country or region and in local languages.

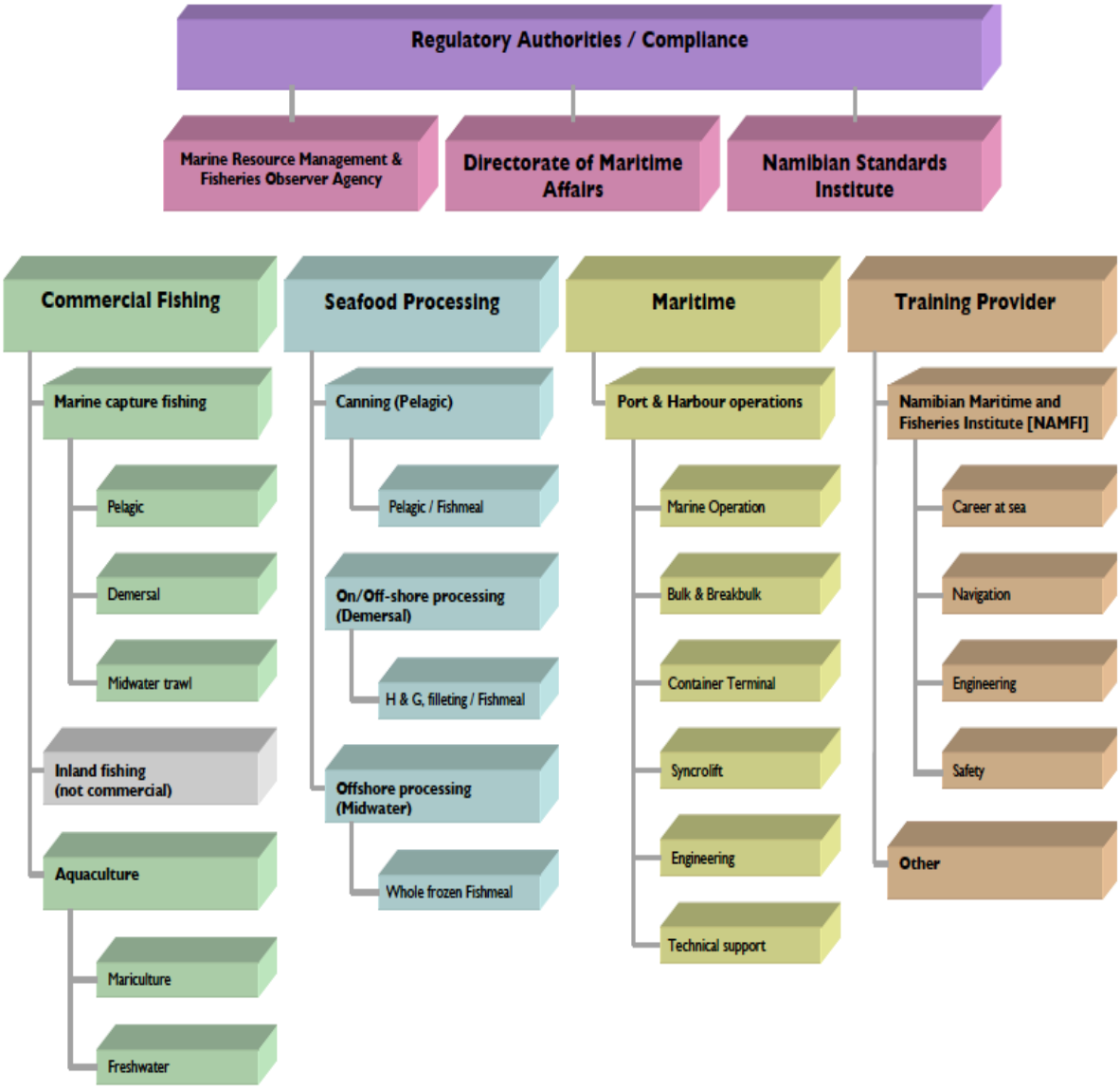
Part B of the Code provides guidance on safety and health requirements for the construction and equipment of fishing vessels.

Fishing Industry / Ports and Harbours Framework

As outlined, the Fishing and Maritime Industry Skills Committee comprises representatives of the Namibian fishing industry, Ministry of Fisheries and Marine Resources, and the Namibian Ports Authority.

Consequently Phase 1 of the job mapping exercise covers the “Fishing Industry”, associated “Regulatory Authorities, including Training Provider” and “Ports and Harbours”.

The associated structure is shown below.



Commercial Fishing

(All at-sea activities of the fishing vessel)

Marine capture fishing (Mainly within Namibia's exclusive economic zone, EEZ)

The sub-sectors are based on different sizes of vessels:

- Pelagic (500 tonne vessels approx.)
- Demersal (700 tonne vessels approx.)
- Midwater trawl (5, 000 tonne vessels approx.)

Inland fishing is small scale, and is primarily about subsistence fishing, and earning additional income. It is not a commercial activity in the same sense that the rest of the fishing industry is.

Detailed figures are not available for production of fish from inland sources in Namibia. However, production is estimated to be not less than 2,000 tonnes per annum for the Caprivi Region, 800-1000 tonnes for the Okavango Region, 250 tonnes for the Cuvelai system and minimal amounts for the Orange and Kunene Rivers.

The most popular fishing methods used by inland fishermen include gill nets, spears and hook and line. Dragnets are also used, mainly during the low water periods when they are more effective. Fish catches vary with different seasons while catch per unit effort may differ with constant level of effort depending on the time of year or season that affects fish availability.

There is not accurate information on numbers of people involved. Responsibility for the inland fisheries sector has recently been placed under the Directorate of Aquaculture within the Ministry of Fisheries and Marine Resources. Priorities in terms of future training needs and development include:

- Inland fisheries management (fisheries conservation, fishing gears, fish disease);
- Marketing of inland fish products in Namibia;
- Value chains in small scale fisheries (harvesting, processing, quality assurance, marketing);
- Record keeping for inland fisheries (benchmark surveys, capture records);
- Business management / business development skills.

Aquaculture (fish farming)

The sub-sectors cover:

- Mariculture (farming with marine fish and shellfish)
- Freshwater aquaculture (fish farming in freshwater)

Seafood Processing

(Value-addition to raw fish products, to produce semi- or in the future fully prepared meals)

Sub-sector: Filleting / Portion Cuts / Fishmeal

- Canning (of cooked fish)
- On-shore processing (all processing activities of seafood in factories on shore)

Frozen Whole / Heading and Gutting / Filleting/ Fishmeal

- Off-shore processing (all processing activities of seafood in factories on vessels)

According to the Ministry of Fisheries and Marine Resources "*Employment Verification Report - 2010"* the total direct employment in the Namibian Fishing Industry has increased by 24.5 % since 2008.

Species Name	2008	2009	2010
Hake	7603	8439	8956
Monk and Sole	205	340	350
Line fish	388	387	395
Crab	71	81	81
Rock Lobster	550	531	455
Small Pelagic	979	1838	1361
Seals	81	81	80
Sea Weed	80	80	80
Large Pelagic	536	728	593
Horse Mackerel	261	880	1029
Grand Total	**10754**	**13385**	**13380**

Onshore and Offshore Employment:

	2008	2009	2010
Onshore	7012	9112	9386
Offshore	3742	4273	3994
Total	***10754***	***13385***	***13380***
Gender			
Males Offshore	3935	4442	4160
Males Onshore	2800	4411	4449
Total Males	**6735**	**8853**	**8609**
Females Offshore	17	41	42
Females Onshore	4002	4491	4729
Total Females	**4019**	**4532**	**4771**
Grand Total	***10754***	***13385***	***13380***
Nationality			
Namibians	10299	12807	12866
Foreigners	455	578	514
Grand Total	***10754***	***13385***	***13380***

Marginalised & Disabled (Hake - demersal sector and Horse Mackerel - midwater trawl sectors)

	2008	2009	2010
Marginalized	0	0	0
Disabled	11	15	15
Grand Total	**11**	**15**	**15**

Source: Ministry of Fisheries and Marine Resources, 2010. Employment Verification Report

Note: Employment breakdown by job position for the major fishing industry sectors in Namibia, demersal, pelagic, and midwater trawl, are amplified in Appendix 1.

Regulatory Authorities

The Fisheries and Maritime Sectors are potentially dangerous environments with high health and safety risks, and are therefore regulated to ensure safety (both at sea: safety of people, and food: product safety) as well as fisheries compliance.

The fisheries sector must also comply with resource management regulatory requirements to ensure scientifically justified sustainability.

Key regulatory authorities comprise:

- The Directorate of Maritime Affairs who regulate "safety and the environment" on vessels, and quality assurance with respect to qualification requirements under the STCW Convention, undertaken by the training body, NAMFI.
- Fisheries Inspectors from the Ministry of Fisheries and Marine Resources ensure that the fishing industry legally abides to Fisheries Regulations.
- Fisheries Observers in the Fisheries Observer Agency, go to see on commercial fishing vessels, policing fishing activities, and also providing scientific data gathering as required.
- Namibian Standards Institution Inspectors monitor the seafood safety of products coming from the fisheries and aquaculture sectors.
- Aquaculture Directorate staff of the Ministry of Fisheries and Marine Resources research monitor marine waters and potential harmful algal blooms in the mariculture sector, and undertake research and extension services to promote inland freshwater aquaculture.

Training Provider - Namibian Maritime and Fisheries Institute (NAMFI)

The Namibian Maritime and Fisheries Institute - NAMFI, under the Ministry of Fisheries and Marine Resources, is Namibia's key fisheries and maritime trainer provider, who is mandated to provide training courses in compliance with the STCW Convention. The training is categorised in officers and crew. The officers are divided into two professions: Deck officers, who navigate and command the ship and look after the cargo and, Engineering officers, who keep the engines and machinery in running condition. Ratings support the deck and engineering tasks on-board. Entry requirements vary from Grade 10 to Grade 12, depending on the nature of the course. An overview of NAMFI's training programmes and the qualifications being awarded are listed under the respective section of the occupational map.

Ports and Harbours

Namport, since 1994operating as the National Ports Authority in Namibia, currently operates as the centre of Namibia's ports and harbours sector, and manages both the Port of Walvis Bay and the Port of Lüderitz in Namibia.

The Walvis Bay Corridors recorded high volumes of cargo - more than 63,000 tonnes - for the month of January 2012. The Walvis Bay Corridor Group noted that these figures show a significant growth in cargo volumes along the Trans-Kalahari, Trans-Caprivi and Trans-Cunene corridors.From a mere 10 trucks a day that left the port of Walvis Bay seven years ago to other SADC countries, more than 1,000 vehicles are now entering or leaving the Port of Walvis Bay on a monthly basis.

The Port of Lüderitz, caters for Southern Namibia as well as providing access to markets in the Northern Cape of South Africa.

Namport's key roles are to:

- Manage the port facilities to cater for current trade needs
- Develop the ports for future demands
- Contribute to the competitiveness of the SADC region's trade through the efficient, reliable and cost-effective supply of port services
- Facilitate economic growth in Namibia by enabling regional development and cross-border trade
- Promote the Ports of Walvis Bay and Lüderitz as preferred routes for sea-borne trade between SADC, Europe and the Americas
- As the founding architects of the Walvis Bay Corridor Group, assist with developing cross-border trade
- Minimize the impact of port operations on the natural environment by applying International Organisation for Standardisation ISO 14001 (*source: Namibian Ports Authority Annual Report, 2009)*.

Ports and Harbours are a key commercial component in terms of developing the on-going and future competitiveness of the Namibian economy.

Key departments relating to maritime activities:
(with broad definitions of the key functions and activities of each department)

- Marine (port operations including marine pilots, port control, and tug operations)
- Bulk & Breakbulk (cargo such as fuel, fish, sulphur, and general cargo)
- Container Terminal (containerised cargo)
- Syncrolift (a dry dock facility)
- Engineering (port engineering including growth, statutory, and maintenance projects)
- Technical (technical services supporting the port).

As at end of January 2012, Namport employed a total number of 763 staff members, of whom 108 are females, 655 are males, and 3 are people living with disabilities.

The above can further be broken down to depict the actual ratio between gender and employees living with disabilities - in terms of levels of hierarchical levels:

Hierarchical positions	Ratio Male vs. Female	People living with disability
EXCO	7:1	0
Management	13:6	0
Middle management/Specialists	20:6	0
General skills	615:95	3

Source: Namport, February 2012

Departments specific to “maritime” are broken down into:

- Marine (106 employees)
- Bulk and Breakbulk Cargo (150 employees)
- Container Terminal (248 employees)
- Engineering (24 employees)
- Technical (102 employees)
- Syncrolift Dry Dock (33 employees)

The organisational structure of these departments, in job positions broken down by numbers, is amplified in Appendix 2.

Additional departments comprise:

- Office of the Chief Executive Officer (8 employees)
- Finance (32 employees)
- Human Resources (32 employees)
- Marketing (14 employees)
- Projects (4 employees)
- Safety Health Risk Environment Quality (30 employees).

Occupational Maps

"An occupational map is essentially a report describing the main features and characteristics of an industry or sector. It gives a picture of the sector in terms of its coverage and boundaries, providing information on the numbers employed, industry trends, job titles and job roles. In this way it contributes to the context and background for the development of national occupational standards for a sector".

Source: VALLA - Validation of all Lifelong Learning (European Union)

The **occupational maps** developed for the industry sector / sub sectors (page 27 – 201) reflect on current and future job positions, their skills levels required (NQF levels), and identify skills gaps and training requirements. They are the result of an extensive consultation process to gather and collate qualitative and quantitative evidence and information involving key stakeholders comprising of industry, governmental and non-governmental institutions. The occupational map(s) indicate industry priorities per sector / sub sector and provide an overview of the level of employment for each of the positions working in the commercial fishing industry and in ports and harbours operations.

Commercial Fishing

Occupational map

Marine Capture Fishing

Small / Large Pelagic

Sector:	Commercial Fishing
Sub-sector:	Marine capture fishing
Field:	Small / Large Pelagic (Vessels approximately 500 gross tonnes)
Overview:	The "small pelagic" sector comprises mainly refrigerated seawater purse-seine vessels targeting pilchards mostly for landing at onshore canneries. The "large pelagic" fishery is separated into two sectors, one targeting albacore tuna utilising the pole and line fishing method, and the second sector targets lesser amounts of swordfish and large tunas such as yellowfin and bigeye, with shark as by-catch, utilising surface longliners. Most of the pole and line vessels land their tuna fresh on ice (the best quality product being airfreighted to Europe), while some stay out longer, freezing the fish at sea. Frozen albacore, whether onshore or at sea, is currently sold mainly as whole frozen round product to international canneries in Spain and South East Asia. In 2009, of the demersal vessels licensed to go commercial fishing by the Ministry of Fisheries and Marine Resources, 10 were pilchard purse-seiners, and 48 were large pelagic, mostly pole and line vessels, and a smaller number of longliners. To date most of the pole and line vessels have been coming from South Africa due to the seasonal fishing season of half a year. The Ministry of Fisheries and Marine Resources, working with industry, want to see greater Namibianisation now, each Namibian fishing concessionaire needing to own at least one pole and line vessel within the next couple of years. The surface longline large pelagic vessels currently are primarily South African and Spanish charter vessels, the fish being frozen at sea at minus 24 degrees. 20,137 tonnes of pilchard was landed in 2009, and 4,241 tonnes of tuna was landed.
Employment	In 2010, according to the Ministry of Fisheries and Marine Resources, the "small and large pelagic" sectors employed 1954 people. Of these 512 worked offshore on fishing vessels, all of which were men.
Industry Priorities	• Pilchard vessel crew are primarily a younger generation now having good skills, with NAMFI able to give potential crewing advice when there are shortages.

	• With the emphasis towards Namibianising the local pole and line tuna fleet, there will be a significant increase in the number of Namibians on pole and line vessels. This will require a greater emphasis on training in this sector to maximise competitiveness. • While surface longline vessels are primarily chartered at this stage for commercial reasons, with time the local industry will establish itself in this sector, meaning that in the next 10 years or so, there will be a need for training of Namibian surface longline vessel crews, so that they can compete with foreign vessels. • There is a shortage of “skilled” Chief Engineers. 15 years training is required across the spectrum to know everything. • Need sea training practical experience – so many sea hours.

Skills gaps by occupation and level

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
6 +	**Skipper** In command of the fishing vessel and responsible for its safe and efficient operation, aspects of health and safety, crew and vessel management.	12	Deck Officer Class 5 / Skipper 1 Advanced safety certificates GMDSS Successful track record	2		
6	**Mate** Acts as chief watch commander of the vessel. Often tasked with the responsibility for ensuring that the fishing gear operates correctly and that the catch is stored properly	13	Deck Officer Class 5 / Mate 1			
6	**Superintendent Engineer** Shore based position that provides engineering advice and support to all vessels owned by the company.	3	Diploma Diesel Mechanic (Level 5)	2	1	
5	**Chief Engineer** Undertakes engineering duties such as maintaining, servicing and repairing, testing and diagnosing faults with all mechanical and electrical equipment aboard the vessel according to his/her level of qualification.	11	A Marine Engineer Officer Class 4/5/61F certificate of competency with valid advanced safety certificates	2	5	
5	**Fleet Technical Superintendent** Coordinate and ensure the effective running of all fleet technical departments and workshops	1	Grade 12 Certificate Qualified Artisan 3 year dip N6 / T3 / S4 Minimum of 4 years technical experience in preventative and critical maintenance on-board fish vessels.			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. Of people)		
				Current	5 years	10 years
5	**Bosun/Skipper/Mate 2** Foreman of the vessel crew and expected to have a high level of seamanship skills. Responsible to ensure operations on deck run smoothly.	11	Deck Officer Class 6 / 6 1 F/ Skipper 2 Advanced safety certificate GMDSS Successful track record Trainable			
4	**Engineer (Class 5)** Undertakes engineering duties such as maintaining, servicing and repairing, testing and diagnosing faults with all mechanical and electrical equipment aboard the vessel according to his/her level of qualification.	14	A Marine Engineer Officer Class 5 certificate of competency with valid advanced safety certificates	4	4	
3	**Cook** Responsible for food planning, preparation and stocktaking / provisions ordering. Ensures that the crew are adequately fed in a cost-effective manner.	13	Need some culinary training to produce balanced meals. Proper food planning and budgeting skills. Basic Safety; Basic First Aid; Basic Fire Fighting	8		
3	**Engineer (Class 6)** Assist the Chief Engineer to manage the engineering systems of the vessel in order to ensure achievement of stated Key Performance Indicators and legislative compliance.	4	A Marine Engineer Officer Class 6 certificate of competency with valid advanced safety certificates Need training in fishing gear technology – net matched to vessel power.			
3	**Jetty Charge Hand** Ensure efficient carrying out of daily functions and instructions given by superior regarding company and private vessels. Plan, organize and control the jetty team and their motivation to achieve maximum output.	3	Grade 12 with a pass marks in Mathematics, English 4 Years jetty work experience of which 2 must be on a supervisory level People skills. Lifejacket safety training.			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
3	**Competent Deckhand** Responsible for health and safety, preparing the deck and equipment for the catch, operating fishing gear and other equipment used for shooting, hauling and repairing fishing gear, gutting and storing fish.	15	Understanding of HACCP seafood safety. Basic Safety; Basic First Aid; Basic Fire Fighting On the job training at sea			
2	**Fishing Deckhand** Shoot (cast) and haul in the nets, lines or pots on fishing vessels. They may process fish& pack in ice in the hold.	154	Understanding of HACCP seafood safety. Basic Safety; Basic First Aid; Basic Fire Fighting			
2	**Greaser** Supports the engineer as directed. Cleans the machinery plant, check systems and assists with engineering tasks.	8	Basic Safety; Basic First Aid; Basic Fire Fighting Will need an Engine Rating Certificate soon as STCW Convention will enforce this from 2013.			
2	**Jetty Worker** Assist and perform general duties under instruction of the Jetty Charge-hand. Discharge and sort fish from vessel and supply factory with product according to HACCP standards. Clean vessels according to hygiene standards and provide vessels with enough bins and ice to proceed to sea.	16	Grade 10 preferably. One year in the loading and off-loading of Vessels. Lifejacket safety training. In house training normally in GMP's. Drivers with truck code C1E for public roads			

Indicative list of key competency requirements

Act to prevent interaction with protected species
Adjust and position fishing gear
Analyse and report on-board observations
Apply basic food handling and safety practices
Apply deckhand skills aboard a fishing vessel
Apply medical first aid on board ship*
Apply domestic regulations and industry practices when operating a vessel
Assemble and repair damaged netting
Carry out refuelling and fuel transfer operations
Clean work area
Communicate electronically
Collect routine fishery management data
Comply with organisational and legislative requirements
Contribute to at-sea processing of seafood
Contribute to effective communications and teamwork on a vessel
Contribute to effective workplace relationships
Contribute to safe navigation
Cook on board a vessel
Ensure compliance with pollution-prevention requirements*
Facilitate Quality Assurance process
Fight and extinguish fires on board a coastal vessel
Inspect and report defects and damage to cargo spaces*
Implement OHS policies and guidelines
Locate fishing grounds and stocks of fish
Maintain business records
Manage a small team
Manage people performance
Monitor and record fishing operations
Monitor compliance with legislative requirements*
Maintain a safe navigational watch*
Maintain a safe engineering watch*
Maintain seaworthiness of the ship*
Maintain marine engineering systems, including control systems*
Manoeuvre the ship*
Monitor the loading, stowage, securing, care during the voyage*
Monitor condition and seaworthiness of a vessel
Maintain, prepare, deploy and retrieve purse seines to land catch
Maintain, prepare, deploy and retrieve pole and lines to land catch
Maintain, prepare, deploy and retrieve drop lines and long lines to land catch
Maintain the temperature of seafood
Observe safety and emergency procedures on a vessel
Operate and carry out basic routine servicing of marine extra low and low voltage electrical systems
Operate and carry out basic servicing on auxiliary systems

Operate main and auxiliary machinery and associated control systems*
Operate pumping systems and associated control systems*
Operate life-saving appliances*
Operate alternators, generators and control systems*
Operate and carry out basic service checks on vessel marine propulsion systems
Operate and maintain outboard motors
Operate vessel deck machinery and lifting appliance
Participate in a HACCP team
Plan and conduct a passage and determine position*
Prevent, control and fight fires on board*
Plan and navigate voyage
Provide elementary first aid
Respond to emergencies*
Respond to distress signal at sea*
Shift materials safely using manual handling methods
Supervise maintenance of property machinery and equipment
Survive at sea in the event of vessel abandonment
Transmit and receive information by marine radio or telephone
Troubleshoot and perform basic repairs on vessel electrical, refrigeration, and hydraulic systems
Troubleshoot and perform basic repairs on vessel main- and auxiliary engines.
Transmit and receive information by visual signaling*
Use English in written and oral form*
Use hand tools and measuring equipment for dismantling, maintenance repair and re-assembly of shipboard plant and equipment*
Use hand tools, electrical and electronic measuring and test equipment for fault finding, maintenance and repair operations*
Use radar and ARPA to maintain safety navigation*
Use Standard Marine Navigational Vocabulary*
Use appropriate tools for fabrication and repair operations typically performed on ships*
Use hand tools
Use power tools/hand held operations
Work with knives

** In accordance with STCW 95 convention and respective code*

Commercial Fishing

Occupational map

Marine Capture Fishing

Demersal

Sector:	Commercial Fishing
Sub-sector:	Marine capture fishing
Field:	Demersal (Vessels with 500 gross tonnes or more)
Overview:	The main bottom dwelling or demersal fish species are hake, monk, sole and kingklip. Vessels targeting monk catch sole, and kingklip is a demersal by catch. In 2009, of the demersal vessels licensed to go commercial fishing by the Ministry of Fisheries and Marine Resources, 71 were hake trawlers, 18 were longliners, and 16 were monk trawlers. 137,312 tonnes of hake was landed in 2009, and 6,922 tonnes of monk was landed.
Employment	In 2010, according to the Ministry of Fisheries and Marine Resources, the "demersal" sector employed 9306 people. Of these, 2311 worked offshore on fishing vessels. 2303 were men, and 8 were women.
Industry Priorities	• For both hake and monk currently, due to improvements in fish stock numbers, their total allowable catches are on the increase, and if this trend continues, this will mean more jobs across the board for the sector in the future, with resultant additional training demands. • **Namibian captains** are currently often required to be understudies to foreigners. They need to be given more opportunities. • Technical people with good experience are always scarce. • There is a shortage of **Namibian Fleet Technical Superintendents**. • Need for qualified **Chief Engineers**. NAMFI does however not equip its students with a certificate that is recognized outside Namibia. • NAMFI does not train engineering officers Class IV and higher. • Industry has an acute shortage of **Marine Engineers** with the relevant experience. Academically NAMFI takes care of industry's needs to a certain extent but the major shortcoming is experience. It is paramount that Marine Engineers get exposed to as wide a range of vessels as possible in order to garner the necessary experience. Working for one company on the same vessel year in and year out does not lend itself to developing the required skills to be a well-rounded Chief Engineer suitable for any vessel or situation.

	• Good **Second Engineers** on vessels are also currently hard to find. Many of the seamen try to get the qualification but cannot pass the NAMFI tests. • Graduates from NAMFI often do not have the necessary maths knowledge. • Some of the gentlemen in positions, particularly engineering positions, are also not young anymore, and will need to be replaced in 5 to 10 years. • Younger engineers are also attracted to the mining industry, causing fishing industry shortages. • Re-look at the issue of classification of engineers on Namibian vessels – engineering requirements are too high. The safe manning of vessels for engineering officers are too high. • Some employees, who are currently working in a position, might not have the correct qualification but shortage in the field has forced industry to obtain an exemption for that person. He might have many years relevant experience but does not have the qualification. Some also do not want to go and "learn" anymore. • There are not sufficient job attachment opportunities available in the marine industry. There is too much outsourcing of work and phasing out of technical jobs. • Namibians to be trained according to DMA/NQF standards, so as to enable Namibians to take over some positions occupied by foreigners (all understudy training to be investigated properly on a yearly basis). • Put together an industrial plan of action regards training needs and development amongst the youth. To develop training needs in regards to obtaining sea time and not always dependent on exemption of their tickets. • Identify gap between current ticket/qualification level and demand/requirement level of qualification. • **Cooks** need enhanced training, such as culinary training, learning about producing balanced meals and being able to properly plan and budget for food. • There is a shortage of onshore **Fleet Operations Supply Superintendents**, as the position requires a lot of on the job experience, involving management and planning skills, with past vessel experience at sea. • **Netloft Superintendents** are mostly foreigners. More training is needed for Namibians to prevent shortages in the future. Need training in fishing gear technology, where the net is matched to the vessel power. • **Skill shortages by position include**: Captains current to 10 years; First Mate current to 10 years; Second Mate current to

	10 years; Cooks and 2nd Cooks, current; Galley Boys and Stewards current to 10 years; Fishing Deckhands, Winch Operator, Chief Engineer, Second Engineer, Greaser, Jetty Charge Hand and Jetty Workers, Crane Operator, Net Repairer, Fleet Technical Superintendent, Marine Electricians, Marine Fitters, and Fuel Attendants are all experiencing current shortages – 10 years; Fleet Operations Supply Superintendent current shortage; Fleet Technical Foreman, shortage in 5 - 10 years, the same being the case for Maintenance Planners. Netloft Superintendents expect shortages in 5 years. Some of these shortages will be due to people who have been working long in the fishing industry, retiring. Other shortages are due to current skills gaps.

Skills gaps by occupation and level

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
6 +	**Captain** Manage vessel operations to ensure achievement of stated Key Performance Indicators and legislative compliance.	38	A Deck Officer Class 5 or Mate 1 certificate of competency with valid advanced safety and GMDSS certificates Minimum of 5+ years Skipper experience on trawlers.	7	4	11
6	**First Mate** Manage the deck and factory during vessel operations to ensure achievement of stated Key Performance Indicators and legislative compliance.	35	A Deck Officer Class 5 or Mate 1 certificate of competency with valid advanced safety and GMDSS certificates Minimum of 3 years experience on trawlers.	3	4	7
5	**Second Mate** Supervise deck and factory during vessel operations to ensure achievement of stated Key Performance Indicators and legislative compliance.	21	A Deck Officer Class 6 or Mate 2 certificate of competency with valid advanced safety and GMDSS certificates. Minimum of 2 years experience on trawlers.	8	6	4
5	**Chief Engineer** Manage the engineering systems of the vessel in order to ensure achievement of stated Key Performance Indicators and legislative compliance.	42	A Marine Engineer Officer Class 4/5 certificate of competency with valid advanced safety certificates Minimum of 5+ years experience on main engine of 1200 KW or more.	15	6	9
5	**Fleet Operations Supply Superintendent** Ensure that RM evaluation is done in accordance with set standard. Ensure compliance to S.O.P. in order to maximize quality of RM throughout the supply chain.	2	Grade 12 Certificate with a relevant Health, Safety & Environmental qualification Minimum 5 years experience in fishing industry of which 3 must have been at Supervisory level. Position earned through skill and experience.	2		

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
5	**Fleet Technical Superintendent** Coordinate and ensure the effective running of all fleet technical departments and workshops	5	Grade 12 Certificate. Qualified Artisan 3 year dip N6 / T3 / S4 Minimum of 4 years technical experience in preventative and critical maintenance on-board white fish vessels or similar.	1	4	6
4	**Bosun** The Bosun is the foreman to the ordinary vessel crew, and is expected to have a high level of general seamanship skills. Responsible to ensure operations on deck run smoothly.	12	Bosun in charge of deck/factory does not need a maritime ticket, just Good Management Practises (GMP) seafood safety certificate.			
4	**Second Engineer** Assist the Chief Engineer to manage the engineering systems of the vessel in order to ensure achievement of stated Key Performance Indicators and legislative compliance.	26	Marine Engineer Officer Class 5/6 certificate of competency with valid advanced safety certificates Minimum of 3 years experience on main engines of 1200 KW or more.	7	10	10
4	**Maintenance Planner** To drive, manage and maintain the SAP PM (plant maintenance) process	2	National Higher Diploma. Technical qualification as a mechanical/electrical artisan N4, or equivalent.		1	1
4	**Superintendent Netloft** Manage the entire Net loft functions, including the planning and making of the Nets, as well as all reporting functions.	4	Grade 12 Certificate Extensive experience and skills with regard to Net making. A minimum of 5 years experience is required. Proven Supervisory experience. Need training in fishing gear technology – net matched to vessel power.		2	

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
4	**Fleet Technical Foreman** Oversee execution of contractors & relevant projects in fleet technical area as well as the effective running of the workshops.	9	Grade 12 Certificate Qualified Artisan 3 year dip N6 / T3 / S4 Minimum of 4 years technical experience in preventative and critical maintenance on-board vessels		2	1
4	**Marine Electrician** Ensure that all electrical equipment on the vessels are maintained and remain in good working condition. Ensure electricity safety, Health and Safety procedures are adhered to.	3	Grade 12 Certificate Qualified Artisan: Electrical Must have worked within the marine industry for at least 3 years OR Grade 10 with 5 years experience in the electrical trade in the marine industry Code BE drivers license. On the job training, ideal on fishing vessel to obtain specialist electrical skills related to vessel.	2	5	2
4	**Marine Fitter** Responsible for overall critical, preventative and corrective maintenance of allocated vessel in the company fleet.	5	Grade 12 certificate Qualified Artisan: Fitter 3 years experience as a Fitter, preferably in marine environment and / OR certificate / diploma in storekeeping / warehousing and 2 years experience as a storekeeper, preferably in a marine environment. Code BE drivers license.	5	4	4
3	**Crane Operator** Responsible for the off-loading of wet and frozen fish from trawlers and the loading of ice bins onto the trawlers as well as the loading and off-loading of parts and spares from vessels.	8	Grade 12 with pass mark in Mathematics Code 11 License Certificate: Rigging and rigging calculations Banksman Course	3	2	1

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
3	**Jetty Charge Hand** Ensure efficient carrying out of daily functions and instructions given by superior regarding company and private vessels. Plan, organize and control the jetty team and their motivation to achieve maximum output.	8	Grade 12 with a pass marks in Mathematics, English 4 Years jetty work experience of which 2 must be on a supervisory level People skills. Lifejacket safety training.	6	5	7
3	**Net Repairer** Planning, repairing and maintenance of nets to a given quality of net making.	9	Grade 10 preferably and a minimum of 2 years in net making.	5	10	20
3	**Cook** Responsible for food planning, preparation and stocktaking / provisions ordering. The Cook ensures that the crewmembers are adequately fed in a cost effective manner, assisting to maintain crew moral in the process.	47	Need some culinary training to produce balanced meals. Proper food planning and budgeting skills. Basic Safety; Basic First Aid; Basic Fire Fighting	25		
3	**Assistant Marine Electrician** Assist the Marine Electrician with all electrical equipment on the vessel to ensure that they are maintained and remain in a good working condition at all times.	4	Grade 12 with a pass marks in Mathematics and Physical Science Must have worked within the marine industry for at least 1 years OR Grade 10 with 3 years experience in the electrical trade in the marine industry Code BE drivers license.	1		
3	**Assistant Marine Fitter** Assist the Marine Fitter with all maintenance. Receive, store and issue marine tools and equipment in the marine workshop.	7	Grade 12 and 2 years experience in the fitting trade, preferably in a marine environment Code BE drivers license	5	1	1

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
3	**Fuel Attendant** Order and receive fuel and oil stocks. To issue relevant quantities to fleet as ordered and to book it out to relevant vessels.	5	Grade 12 Certificate	3	3	3
3	**Steward** In charge of the interior of the vessel and is similar to a 'house keeper' or host/hostess. Responsible for the general cleaning of accommodation, and provision of catering support. Ensures that crewmembers are looked after in a discreet and confidential manner.	12	Basic Safety; Basic First Aid; Basic Fire Fighting	8	6	8
2	**Crane Indicator** Ensure the safe and correct discharge of seafood, by giving the correct hand signals to the crane driver.	3	Grade 10 Certificate Experience: one year in basic hand signal indication Banksman Course			
2	**Jetty Worker** Assist and perform general duties around and on the Jetty under instruction of the Jetty Charge-hand. Discharge and sort fish from vessel and supply factory with product according to HACCP standards. Clean vessels according to hygiene standards and provide vessels with enough bins and ice to proceed to sea.	57	Grade 10 Certificate (preferably). One year in the loading and off-loading of Vessels. Lifejacket safety training. In house training normally in GMP's.	18	15	20
2	**Galley Boy** A Galley Boys assist the cook in preparing and serving food to crewmembers.	24	Basic Safety; Basic First Aid; Basic Fire Fighting	8	6	8

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
2	**Fishing Deckhand** Fishing deckhands shoot and haul in the nets on inshore and deep-sea fishing vessels. They may also process fish.	557	Understanding of HACCP seafood safety. Basic Safety; Basic First Aid; Basic Fire Fighting	40	6	6
2	**Winch Operator** Operates the trawl winch on a fishing vessel.	25	Grade 12 with pass mark in Mathematics. Code 11 License Certificate: Rigging and rigging calculations. Banksman course.	17	4	4
2	**Greaser** Cleans the plant machinery, checks systems and assists with engineering tasks.	58	Basic Safety; Basic First Aid; Basic Fire Fighting 1-2 years experience. Will need an Engine Rating Certificate soon as STCW Convention will enforce this from 2013.	16	2	2
2	**Assistant Fuel Attendant** To assist the fuel attendant with the ordering and receiving of fuel and oil stock and issuing the relevant quantities to fleet as ordered.	4	Grade 12 Certificate with Mathematics and Physical Science Three years experience in Fuelling Industry One year Diesel Supplying and IFO Supplying and necessary Safety Training or Documents	2	1	1

Indicative list of key competency requirements

Act to prevent interaction with protected species
Adjust and position fishing gear
Administer projects
Apply basic food handling and safety practices
Apply deckhand skills aboard a fishing vessel
Apply domestic regulations and industry practices when operating a vessel
Apply medical first aid on board ship*
Assemble and repair damaged netting
Build and sustain an innovative work environment
Carry out refuelling and fuel transfer operations
Clean work area
Clean kitchen, pots and utensils
Collect routine fishery management data
Communicate electronically
Communicate in the seafood industry
Comply with organisational and legislative requirements
Construct nets and customise design
Contribute to effective communications and teamwork on a vessel
Contribute to safe navigation
Cook on board a vessel
Coordinate stock handling activities
Demonstrate knowledge of HIV and AIDS in the workplace
Ensure compliance with pollution-prevention requirements*
Identify risk and apply risk management processes
Implement a machinery management system
Implement and monitor environmentally sustainable work practices
Implement the food safety program and procedures
Implement workplace information system
Inspect and report defects and damage to cargo spaces*
Locate fishing grounds and stocks of fish
Manage and control fishing operations
Manage budgets and financial plans
Manage operational plan
Monitor and record fishing operations
Monitor compliance with legislative requirements*
Monitor condition and seaworthiness of a vessel
Maintain a safe navigational watch*
Maintain a safe engineering watch*
Maintain seaworthiness of the ship*
Maintain, prepare, deploy and retrieve trawls to land catch
Maintain marine engineering systems, including control systems*
Maintain the temperature of seafood
Manoeuvre the ship*
Monitor the loading, stowage, securing, care during the voyage*

Observe safety and emergency procedures on a vessel
Operate main and auxiliary machinery and associated control systems*
Operate and carry out basic routine servicing of marine extra low and low voltage electrical systems
Operate and carry out basic servicing on auxiliary systems
Operate pumping systems and associated control systems*
Operate life-saving appliances*
Operate and carry out basic service checks on vessel marine propulsion systems
Operate alternators, generators and control systems*
Operate vessel deck machinery and lifting appliance
Participate in a HACCP team
Plan and conduct a passage and determine position*
Plan for minimal environmental impact
Prepare for maintenance
Prepare, cook and serve food
Prevent, control and fight fires on board*
Respond to emergencies*
Respond to distress signal at sea*
Shift materials safely using manual handling methods
Supervise maintenance of property machinery and equipment
Support a workplace-learning environment
Support continuous improvement systems and processes
Store foot and beverages
Transmit and receive information by marine radio or telephone
Transmit and receive information by visual signalling*
Use English in written and oral form*
Use hand tools and measuring equipment for dismantling, maintenance repair and re-assembly of shipboard plant and equipment*
Use hand tools, electrical and electronic measuring and test equipment for fault finding, maintenance and repair operations*
Use radar and ARPA to maintain safety navigation*
Use Standard Marine Navigational Vocabulary*
Use appropriate tools for fabrication and repair operations typically performed on ships*
Work with knives
Work in a team

** In accordance with STCW 95 convention and respective code*

Commercial Fishing

Occupational map

Marine Capture Fishing

Midwater Trawl – Horse Mackerel

Sector:	Commercial Fishing
Sub-sector:	Marine capture fishing
Field:	Midwater Trawl – Horse Mackerel (Vessels of approximately 5,000 gross tonnes)
Overview:	The Namibian horse mackerel sector from a fishing vessel perspective comprises the jumbo jets of the fishing industry. These vessels are mostly 100 metres or more long, purchased from Russian fishing companies and refurbished. In 2009, 9 midwater trawlers were licensed, catching 215,051 tonnes of horse mackerel. This catch is now on the increase due to improved fish stocks, the total allowable catch in 2012 being 320,000 tonnes.
Employment	In 2010, according to the Ministry of Fisheries and Marine Resources, the "midwater trawl" sector employed 1029 people. Of these, 904 worked offshore on fishing vessels. 875 were men, and 29 were women. A further 125 people worked onshore as support for vessel operations, and as management and admin, marketing the product into Africa.
Industry Priorities	• Find ways of creating greater Namibian fishing and maritime skills capacity on vessels, which due to their size require highly skilled capacity in top-level positions. In the midwater trawl sector, foreigners fill the top 35% of jobs. Namibians either need to be trained to fill these positions, or these positions will continue to be filled by foreigners with the necessary skills. Namibianisation is the ultimate goal. • Because the vessels are Russian made, crew of Russian and Eastern Europe origin currently operates the top vessel positions. They are highly qualified, but due to their home origins do not demand the same salaries a Namibian would in the same position (for example in the demersal hake sector), resulting in it being hard to attract Namibians into these positions. • The Namibian Fisheries and Maritime Institute, as a training institution regulated under the maritime STCW Convention, is currently not geared to provide training qualifications for the top positions on these large horse mackerel vessels. • This is a source of frustration for the Namibian midwater trawl fishing companies, who are now having to send trainees to Russian Maritime skills at huge expense – they must first learn Russian before they can proceed with proper training.

	• Vessel "**Masters**" currently all foreign and it will be 10-15 years before Namibians are in these positions. • **Chief Mate** – all foreigners – 10-13 years before Namibians fill these positions. • **1st Mate** – all foreigners – 10 years plus before Namibians fill these positions. • **2nd Mate** – all foreigners – 5-6 years before Namibians fill these positions. • **3rd Mate** – 1 Namibian – 4-5 years before Namibians fill these positions. • **Electronics and Acoustics Operator** – all foreigners – 10-15 years before Namibians fill these positions. • **Bosun / Trawl Master** – 1 Namibian – 3-5 years before Namibians fill these positions. • **Chief Engineer** – all foreigners – 15 years plus before Namibians fill these positions. • **2nd Engineer** – all foreigners 15 years before Namibians fill these positions. • **Assistant 4th Engineer** – currently 5 Namibian, being on all vessels in the next 5-10 years. • **1st Motorman**. Currently all Namibian. However, they are also being lost to the mining industry that pay more, and consequently need to be replaced as need be. • **2nd Motorman**. All Namibian, but looking at 2 per vessel in the next five years. • **Marine Electrician** – all foreigners – expect there to be 1-2 Namibians in the next five years, and 5 Namibians within the next ten years, the limited numbers being that they are also lost to the mining sector. • **Assistant Electricians** – all Namibians with no shortages. • **Chief Cooks** – currently all foreigners as cook for the senior Russian crew. Should be all Namibian within the next 10 years. • **Chief Trawl Master**. All foreign, due to the vessel equipment being Russian. Should be all Namibian within the next 10-15 years. • **1st Mechanical Adjuster**. All foreigners. Should be all Namibian within the next 10 years. • **Welders, Turners, Joiner/Fitters**. All foreigners. Should be all Namibian within the next 10 years. • **Ships Doctor** – all foreigners – Namibian shortage due to foreigners with expertise working for less money. • **Steward(ess**) (foreign) / **Galley boy** for Namibians. 2 per vessel split 50:50 foreign and local. Foreigners diminishing, with Namibians holding both positions in the next 10 years.

Skills gaps by occupation and level

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
6 +	**Master** Is in charge of a vessel and also responsible for events appointed by a company (e.g. purchasing goods ashore or recruiting crew etc)	8	Class 1 Masters Ticket	8	8	8
6	**Chief Mate** Chief officer is a secondary in charge on a vessel	8	Class 2 Masters Ticket	8	8	8
6	**First Mate** Act as safety officer, ensure proper look out, monitor vessel performance, report defects, ensure proper housekeeping is conducted, maintain properly crewed vessel, admin-logbooks reports	3	Class 3 Masters Ticket	3	3	3
6	**Second Mate** Keep watch, search fish, manoeuvre vessel, supervise navigation conditions	7	Class 4 Masters Ticket	7	7	7
6	**Ships Doctor** Attends to daily incidents / accidents and daily health dispensary requirements.	8	Medical doctor	8	8	8
6	**Chief Engineer** Ensure availability of technical features, monitor correspondence of applied fuels. Plan preventative and repair work. Draw up repair sheets. Prevention of marine pollution.	8	Class 1 Engineering Ticket **Note:** The qualification for a Chief Engineer on a horse mackerel vessel is much higher than for the same position on a smaller pelagic vessel.	8	8	8

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
6	**Second Engineer** Safety and fire equipment of machinery spaces, maintenance and efficiency of power plant, compressors, steering mechanisms	8	Class 2 Engineering Ticket	8	8	8
5	**Third Mate** Navigational charts, nautical publications, and alarms.	8	Class 5 Masters Ticket. 4-5 years experience.	5	5	
5	**Chief Trawler Master** Familiar with fishing area regulations liable for implementing & maintaining legislative practice on board, responsible for all work with fishing gear and equipment, keeping stock of gear	8	There are qualifications for this in Russia. Needs a lot of experience with regards fishing gear and safety	8	8	8
5	**First Mechanical Adjuster** Ensure correct technical operation and technical condition of equipment; prepare equipment for duty; supervise personnel who service the equipment and distribute information to management; ensure safety.	14	Specialised technical equipment expertise.	14	14	14
4	**Bosun /Trawl Master** Ensure maximum catch and repairs are done to the quality standards, maintain motivated workforce and safety-gear equipment in good condition, safety checks	8	Deck Officer Class 6 Grade 12 with Maths, English and physical Science supported by 12 months sea time OR Fisherman Gr.4 ticket OR Grade 10 with Maths, English and Physical Science supported by 36 months sea time as deckhand	8	8	

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
4	**Trawl Master** Repair of fishing gear and equipment. Manage safety and performance during shift. Reports to Chief Trawl Master.	8	Good experience with regards to fishing gear and safety.			
4	**First Motorman** Oil and grease moving parts. Examines machinery for specified pressure, fill oil cups, read pressure and temperature gauges, service auxiliary machines and control them, pipe arrangements and valves of vessel	15	Class 5 Engineering Ticket OR Class 6 Engineering Ticket, Class 5 Diploma	15	4	3
4	**Electrician** Fulfil service regulations of electrical equipment and automation. Know device and service generators, electric motors. Know all electric equipment and repair when required	9	Qualified Marine Electrical artisan	9	8	4
4	**Welder** Appropriate knowledge on technical condition of welding equipment and instruments; to perform electro-gas (oxygen, acetylene, argon) welding; general service and repair.	8	Qualified Welder artisan.	8	8	8
4	**Turner** Ensure appropriate condition of tools and equipment in engineering workshop.	8	Qualified Turner artisan.	8	8	8
4	**Joiner / Fitter** Fulfil installation and metalwork, assist in repair	8	Qualified Joiner / Fitter artisan	8	8	8

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
4	**Electronics & Acoustic Operator** Operates navigational, fish finding and trawl managing electronically equipment, maintain and repair electronics on board	6	Specialist electronic repair skills for navigation, fish finding, and trawl managing electronic equipment	6	6	6
4	**Assistant 4th Engineer** Namsov created engineering position to support and learn from the Russian vessel engineers	5	Class 5 Engineering Ticket 3-5 years experience	5	5	4
3	**Fourth Mate / deck cadet** Prepare crew list, prepare docs for port call, fulfil clerical work, perform deck and navigational duties	1	Class 5 Diploma Class 6 Masters Ticket	1		
3	**Chief Cook** Responsible for Galley, set menu and allocate provisions accordingly, order stock for galley. Keep safe and hygienic practice in the galley.	8	Needs to be able to cook for Russians taste Basic Safety; Basic First Aid; Basic Fire Fighting	8	2	All
3	**Second Motorman** Services auxiliary machines and gears, assignment and pipe arrangement.	19	Class 6 Engineering Ticket			
3	**Assistant Marine Electrician** Assisting and learning from the currently all foreign electricians to fulfil service regulations of electrical equipment and automation. Know device and service generators, electric motors. Know all electric equipment and repair when required.	8	Qualified Electrical Artisans			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
2	**Galley boy / Stewardess (foreign)** Attends to comfort of officers, serves food and drinks in mess room, cleans captain's cabin, changes linen and towels.	19	Grade 12 In house training Basic Safety; Basic First Aid; Basic Fire Fighting	10	5	
2	**Cleaner** Responsible for the cleanliness on the vessel	8	Grade 12 In house training in cleaning and sanitation Basic Safety; Basic First Aid; Basic Fire Fighting			
2	**Deckhand** Assist in bunkering, perform trawler operations, mooring, loading & stowage of stores, spares and supplies.net mending	77	Understanding of HACCP seafood safety. Basic Safety; Basic First Aid; Basic Fire Fighting			
2	**Second Cook** Bakes, cooks, cleans baking area, prepares food aboard vessel.	8	Grade 12. 3-5 years onshore cooking experience Basic Safety; Basic First Aid; Basic Fire Fighting			
2	**Third Cook** Prepares and cooks food aboard, cleans cuts cooks meat, fish etc. Apportions food for servings.	8	Grade 12 1-2 years work experience Basic Safety; Basic First Aid; Basic Fire Fighting			

Indicative list of key competency requirements

Act to prevent interaction with protected species
Apply medical first aid on board ship*
Adjust and position fishing gear
Analyse and report on-board observation
Apply basic food handling and safety practices
Apply deckhand skills aboard a fishing vessel
Apply domestic regulations and industry practices when operating a vessel
Apply first aid
Assemble and repair damaged netting
Clean work area
Collect and manage data
Collect routine fishery management data
Communicate electronically
Comply with organisational and legislative requirements
Construct nets and customise design
Contribute to at-sea processing of seafood
Contribute to effective communications and teamwork on a vessel
Contribute to safe navigation
Cook on board a vessel
Coordinate stock handling activities
Demonstrate knowledge of HIV and AIDS in the workplace
Ensure compliance with pollution-prevention requirements*
Facilitate hygiene and sanitation performance
Facilitate Quality Assurance process
Fight and extinguish fires on board a coastal vessel
Identify risk and apply risk management processes
Implement a machinery management system
Implement and monitor environmentally sustainable work practices
Implement the food safety program and procedures
Implement workplace information system
Inspect and report defects and damage to cargo spaces*
Locate fishing grounds and stocks of fish
Manage and control fishing operations
Manage budgets and financial plans
Manage operational plan
Manage people performance
Monitor and record fishing operations
Monitor condition and seaworthiness of a vessel
Maintain, prepare, deploy and retrieve trawls to land catch
Maintain the temperature of seafood
Monitor compliance with legislative requirements*
Maintain a safe navigational watch*
Maintain a safe engineering watch*

Maintain seaworthiness of the ship*
Maintain marine engineering systems, including control systems*
Manoeuvre the ship*
Monitor the loading, stowage, securing, care during the voyage*
Observe safety and emergency procedures on a vessel
Operate and carry out basic routine servicing of marine extra low and low voltage electrical systems
Operate and carry out basic servicing on auxiliary systems
Operate and carry out basic service checks on vessel marine propulsion systems
Operate vessel deck machinery and lifting appliance
Operate main and auxiliary machinery and associated control systems*
Operate pumping systems and associated control systems*
Operate life-saving appliances*
Operate alternators, generators and control systems*
Participate in a HACCP team
Plan and navigate voyage
Plan for minimal environmental impact
Plan and conduct a passage and determine position*
Prevent, control and fight fires on board*
Respond to emergencies*
Respond to distress signal at sea*
Supervise maintenance of property machinery and equipment
Support a workplace-learning environment
Support continuous improvement systems and processes
Transmit and receive information by marine radio or telephone
Transmit and receive information by visual signalling*
Use English in written and oral form*
Use hand tools and measuring equipment for dismantling, maintenance repair and re-assembly of shipboard plant and equipment*
Use hand tools, electrical and electronic measuring and test equipment for fault finding, maintenance and repair operations*
Use radar and ARPA to maintain safety navigation*
Use Standard Marine Navigational Vocabulary*
Use appropriate tools for fabrication and repair operations typically performed on ships*
Use hand tools
Work with knives
Work in teams

** In accordance with STCW 95 convention and respective code*

Commercial Fishing

Occupational map

Aquaculture

Mariculture

Sector:	Commercial Fishing
Sub-sector:	Aquaculture
Field:	Mariculture
Overview: **Employment**	Mariculture farms in Namibia are currently dominated by oyster farms, which are relatively well established but in Walvis Bay especially, are still learning how to mitigate against large mortalities in sulphur upwelling events. The oyster sector has been limited from a marketing perspective because it has tended to saturate the Namibian and South African markets. It has been developing the SE Asian market, and once it gets European Union approval to enter the EU market, which should occur in the next year or so, there is real potential for mariculture expansion. The one land based abalone farm, is now established and is expanding. The other mariculture operations are still in the developmental phase but the sector is gaining momentum. Current mariculture farms comprise: • 4 oyster farms in Walvis Bay • 1 oyster farm, 1 oyster hatchery in Swakopmund • 3 oyster farms in Lüderitz • 1 abalone farm in Lüderitz • 2 pilot abalone ranching projects in Lüderitz • 1 abalone and 1 oyster pilot project in Oranjemund Expectations of the mariculture industry comprise: • Being able to run profitable businesses and grow the business • Needing to develop diversified (species) portfolios • Contributing to job creation • Contributing to skills development and transfer. Areas of concern to industry include: access to finance, access to markets, particularly the EU market which requires closely working with the Namibian Standards Institution, and access to land and water areas in relation to new mariculture species and technologies in the future. In the next five years, as the sector expands, there is going to be a need for more management, more admin staff, more small vessel skippers, and more onshore and offshore supervisors, to avoid a skills shortage in these positions. Current larger oyster farms employ around 20 people each, comprising management, admin, skippers, onshore and offshore

	supervisors, and skilled labourers. The onshore abalone farm currently employs around 40 people including management, hatchery manager, admin, and skilled labourers. The Oyster Hatchery employs around 6 people comprising the manager, admin, and skilled labourers. Smaller developmental aquaculture operations each employ around 5 people.
Industry Priorities	• Literacy, and numeracy, language skills, taking and giving instructions and confirming understanding. • Driving licenses. • In house procedural training e.g. closing chiller and cold store doors, covering and wetting oysters in hot weather etc. Effects of time temperature and trauma on live animals. • Importance of record keeping and in house recording procedures. • Basic food hygiene. • Mechanical training – routine and troubleshooting maintenance of pumps outboard engines etc. • Basic computer skills. • Skippering mariculture-farming vessels. • Basic seagoing skills – knots and splicing, mooring and un-mooring, safe working practices. • Training for making oyster baskets • Production techniques & extension methodologies (by species oyster, abalone farming, seaweed, etc.) • Training in marketing of mariculture products both in and outside Namibia. • Processing and quality assurance. • Management of mariculture farms. • Development of business plans and feasibility studies. • 1-3 week mariculture course in animal husbandry and biology of species. • There is a need for professional, technical and skills training relating to production management and relevant technology. • Need marine biologists for proper aquaculture research (Government positions providing extension research support), rather than the current trial and error process that commercial farms are currently doing. • Bank financing employees' need on-going training to assess financial feasibility of aquaculture projects. • Skills shortages for job positions include: **Offshore Oyster Farm Managers**, Marketing **Managers, Skippers, Offshore Supervisors**, **Onshore Supervisors**, **Administration Officers, Commercial Divers, Lobster Farm Managers, Abalone Hatchery Assistant Managers,** and even

	Labourers as mariculture farm production are likely to increase significantly in the next 10 years. Once this growth gains momentum, then we will see additional skills required to operate oyster hatcheries, as they too will need to expand to cope with additional production demand.

Skills gaps by occupation and level

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
OYSTER HATCHERY						
6	**Oyster Hatchery Manager** Oversees operation and finances, dealing with customers, ensuring bio-security, and maximising bio-technology	1	NQF 6 or higher. Requires a degree or equivalent training			
3	**Larvae caretaker (Oyster Hatchery)** Oversees larvae development	1	Grade 10 and in-house training			
3	**Algae Caretaker (Oyster Hatchery)** Oversees algae development	1	Grade 10 and in-house training			
3	**Nursery Caretaker (Oyster Hatchery)** Oversees shellfish spat nursery	1	Grade 10 and in-house training			
2	**Labourers (Oyster Hatchery)** Assist operations as needed	2	Grade 10 and in-house training			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
OYSTER FARMING						
6	**Offshore Manager** Manages farm production; buying in seed; ensures effective grading of oysters; dealing with customers; and managing finances	3	NQF 6 or higher. Requires a degree or equivalent training		4	
6	**Marketing Manager** Develops markets and oversees processing of product, meeting international seafood safety and product specification requirements	1	NQF 6 or higher. Requires a degree or equivalent training		3	
5	**Administration Officer** Handles export import documentation; invoicing; salaries and hours worked by individual staff; and bookkeeping	2	Grade 12 and extensive experience in accounting / bookkeeping, personnel and export documentation	4	1	
4	**Skipper** Takes vessel and workers out to farm; ensuring their safety with shellfish cargo on-board. Maintains radio contact with Port Control	3	Small vessel skippers ticket up to 25 tonnes	5	4	
4	**Offshore Supervisor** Maintenance of shellfish on-growing longlines	2	Grade 12 and on the job training	7		
4	**Onshore Supervisor** Grading of shellfish, either for return to sea for on-growing or for sale; washing and cleaning of oysters, packing, liaison with Manager on orders	3	Grade 12 and on the job training	8	4	
2	**Labourer** Assist farm operations at sea and onshore	46	Grade 10 and in-house training		60	

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
LOBSTER FARMING						
6	**Lobster Farm Manager** Oversees experimental development of the farm and finances	1	NQF 6 or higher. Requires a degree or equivalent training		2	
2	**Labourer** Assist farm manager by collecting baby lobster peurulus from oyster farm longlines, and to maximise growth by putting them in grow out bags at different depths, different sites, different water conditions, assessing ways to minimise fouling of the bags etc., and feeding the lobster as they get larger	2	Grade 10 and in-house training			20
ABALONE - RANCHING						
3	**Commercial divers** Seeding abalone spat for on-growing in sheltered coastal areas where the company has been granted rights	4	Class 3 commercial diving ticket	3	11	15
ABALONE – ONSHORE FARMING						
6	**Abalone Farm Manager** Oversees farm management, both operational and marketing, as well as finances. If financial viable the roles of Farm Operations Manager and Marketing Manager would be split.	1	NQF 6 or higher. Requires a degree or equivalent training			
6	**Abalone Hatchery Manager** Makes sure the farm has necessary juvenile abalone spat on growing. In charge of abalone brood stock, hatching of larvae, and survival to become spat in enough numbers to support farm production.	1	NQF 6 or higher. Requires a degree or equivalent training		3	

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
2	**Abalone Farm Labourer** Clean grow out tanks, sort and grade abalone into similar sizes in grow-out tanks, and collect kelp, which they feed to the abalone.	37	Grade 10 and in-house training		150	500

Indicative list of key competency requirements

Act to prevent interaction with protected species
Administer projects
Adjust and position aquaculture gear
Analyse and present research information
Analyse business performance
Analyse machinery options
Apply basic food handling and safety practices
Apply deckhand skills aboard an aquaculture vessel
Apply first aid
Apply quality systems and procedures
Apply sampling procedures
Assemble and repair damaged netting
Build and sustain an innovative work environment
Carry out basic aquaculture activities
Clean work area
Collect and manage data
Communicate electronically
Communicate in the seafood industry
Comply with organisational and legislative requirements
Construct nets and customise design
Construct or install stock culture, holding and farm structures
Control and order stock
Cost a project
Coordinate business resources
Coordinate construction or installation of stock culture, holding and farm structures
Coordinate implementation of customer service strategies
Coordinate production of brochures and marketing materials
Coordinate stock handling activities
Coordinate sustainable aquaculture practices
Cultivate productive working relationships
Deliver a service to customers
Demonstrate knowledge of HIV and AIDS in the workplace
Demonstrate personal drive and integrity
Design and conduct a field-based research trial
Design and manage the food safety system
Develop a marketing plan
Develop a workplace-learning environment
Develop and implement a business plan
Develop and implement an aquaculture breeding strategy
Develop and implement a stock health program
Develop and implement strategic plans
Develop, implement and review purchasing strategies
Develop and promote industry knowledge
Develop and review a business plan

Develop and review a strategic plan
Develop a whole farm plan
Develop export markets for produce
Develop, manage and maintain quality systems
Develop stock production plan
Develop teams and individuals
Develop workplace policy for sustainability
Devise and conduct community consultations
Erect timber structures and features
Establish an aquaculture enterprise
Establish outsourced services and monitor performance
Establish sampling programme
Export product
Extinguish fire by means of basic fire fighting equipment
Facilitate action-learning projects
Facilitate continuous improvement
Facilitate development of group goals and projects
Facilitate Quality Assurance process
Follow work procedures to maintain quality
Grade aquaculture products
Handle resources and infrastructure materials and safely dispose of non-toxic materials
Harvest cultured or held stock
Identify risk and apply risk management processes
Implement a machinery management system
Implement and monitor environmentally sustainable work practices
Implement a program to operate, maintain or upgrade a system comprising high technology water treatment components
Implement continuous improvement
Implement, monitor and review stock production
Implement property improvement, construction and repair
Implement the food safety program and procedures
Implement workplace information system
Import product
Interact with customers
Investigate and design e-business solutions
Investigate micro business opportunities
Keep records for a primary production business
Load and unload goods/cargo
Maintain business records
Maintain business resources
Maintain marine plant
Maintain stock culture, holding and other farm structures
Maintain the temperature of seafood
Maintain water quality and environmental monitoring
Manage an information or knowledge management system
Manage a supply chain
Manage and maintain a food safety plan

Manage budgets and financial plans
Manage business capital
Manage capital works
Manage knowledge and information
Manage industrial relations
Manage machinery and equipment
Manage meetings
Manage merchandise and store presentation
Manage operational plan
Manage payroll
Manage people performance
Manage recruitment selection and induction processes
Manage risk
Manage small business finances
Manage a small team
Manage supplier relationships
Manage water quality and environmental monitoring in enclosed systems
Manipulate stock culture environment
Market the small business
Monitor and manage small business operations
Monitor and review business performance
Monitor stock and environmental conditions
Monitor the implementation of quality and food safety programs
Negotiate contracts
Operate and maintain outboard motors
Operate a small vessel
Operate hatchery
Operate low powered diesel engines
Operate refrigerated storerooms
Operate retail information technology systems
Operate small plant and equipment
Operate specialised machinery and equipment
Operate vessel deck machinery and lifting appliance
Operate within a budget framework
Operate within community cultures and goals
Organise personal work priorities and development
Organise workplace information
Oversee harvest and post-harvest activities
Oversee emergency procedures for on-land operations
Oversee production and maintain algal or live-feed cultures
Oversee the control of diseases
Oversee the control of predators and pests
Participate in a HACCP team
Participate in a quality audit
Participate in environmentally sustainable work practices
Participate in product recall
Perform diving operations using self-contained underwater breathing apparatus

Plan and achieve change and results
Plan and design stock culture or holding systems and structures
Plan and design water supply and disposal systems
Plan and manage infrastructure requirements
Plan and monitor production processes
Plan environmentally sustainable aquaculture practices
Plan, implement and review a quality assurance program
Plan or review administrative systems
Plan purchasing
Plan small business finances
Plan stock health management
Prepare and apply chemicals
Prepare, pack and dispatch stock for live transport
Prepare reports
Process accounts payable and receivable
Process and maintain workplace information
Process financial transactions and extract interim reports
Process payroll
Promote innovation in a team environment
Provide support for diving operations
Provide leadership across the organisation
Receive and distribute product
Receive and store stock
Recruit, select and induct staff
SCUBA dive in open water to a maximum depth of 18 metres
Shift materials safely using manual handling method
Show leadership in the workplace
Shuck molluscs
Source goods/services and evaluate contractors
Supervise harvest and post-harvest activities
Supervise maintenance of property machinery and equipment
Supervise work routines and staff performance
Support group and community changes in resource management
Support hatchery operations
Use business technology
Use hand and power tools
Undertake small business planning
Work with knives
Work in a team

Commercial Fishing

Occupational map

Aquaculture

Freshwater Aquaculture

Sector:	Commercial Fishing
Sub-sector:	Aquaculture
Field:	Freshwater Aquaculture
Overview:	The Ministry of Fisheries and Marine Resources (MFMR), originally promoted freshwater aquaculture development to enhance food security by facilitating the provision of fingerling production to farmers and rural communities for fish farming. This policy is now developing further to promote commercially viable freshwater fish farms by organisations such as Regional Councils working with local communities, where MFMR provide extension support services. Currently the main freshwater farmed species are tilapia and catfish. To support development, MFMR have been developing Inland Aquaculture Centres (IAC's) including hatcheries, as well as Government fish farms farms in the following regions: Omusati, Oshona, Kavango, Otjozondjupa and Caprivi in the north, and Khomas and Hardap in the south of the country. A fish feed production facility has also been established in the north of the country. A freshwater aquaculture research facility, Kamutjonga Inland Fisheries Institute (KIFI), has been established halfway along the Caprivi Strip in the north. Six community based pilot fish farming projects exist, utilising through flow water, three in the Kavango and three in the Caprivi regions respectively. Other small private fish farms have also been established throughout the country, numbering over 140. Where water is much scarcer, recirculation aquaculture systems (RAS) are being developed, such as the private / MFMR joint venture Eco-Fish Farm in the Hardap Region. Due to Namibia's arid environment, the potential of expanding RAS commercial operations to a number of regions in Namibia is being explored. It is estimated that around 100 tonnes per year is currently produced from these farms. RAS farming requires intensive production to be economically viable, so if successfully established will quickly push annual production to over 500 tonnes. Looking to the future, RAS farm employee positions based on an economically viable farm are included below.
Employment	Employment created nationally through freshwater aquaculture farming is currently estimated to be around 75 jobs created within government and around 95 jobs within cooperative farms. Indirect employment is estimated at over a 100 people.

Industry Priorities	• Production techniques & extension methodologies (by species, pond culture, cage culture, recirculation aquaculture systems, hatcheries). • Marketing of inland fish products in Namibia. • Processing and quality assurance. • Record keeping on fish farms. • Management of fish farms. • Development of business plans and feasibility studies. • Skills shortages include: **Farm Managers** which is likely to be the case for the next 5 – 10 years; **Hatchery Supervisors** 5 – 10 years; **Production Supervisors** 5 years; **Maintenance Supervisors** 5 years; **Post Harvest Supervisors** 5 years; **Marketing and Distribution Officer** 5 years; **Admin Officer** 5 years; and current shortages for skilled **Farm Attendants**, **Processing Attendants**; and **Data Capture Clerks**.

Skills gaps by occupation and level

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
6	**Farm Manager** Oversees all farm operations from RAS production through to processing and marketing as well as other activities	1	A University degree or Diploma in Fisheries/ Aquaculture Sciences, Agriculture, Zoology or related fields and most importantly, minimum of 5 years working on a commercial fish farm, with RAS farm experience.		5	
5	**Hatchery Supervisor** Oversees operation and finances, dealing with customers, ensuring bio-security, and maximising bio-technology	1	NQF 5 or higher. Requires a Diploma or equivalent training.	6	5	
5	**Production Supervisor** Supervises fish production activities and food hygiene operating procedures, looks after processing records and manages dispatch. Possibly marketing of fish.	1	NQF 5 or higher. Requires a Diploma or equivalent training.	7	5	
5	**Post- Harvest Supervisor** Ensures the effective processing of freshwater aquaculture products by the processing team to meet client requirements, in accordance with HACCP seafood safety procedures. Looks after processing records and manages dispatch. Possibly marketing of fish.	1	A University Degree/Diploma in food sciences, quality assurance or related. Minimum of two years experience.			
5	**Administrative Officer** Looks after all office work, records and may potentially act as secretary to the manager. Also administer project finances	1	College Diploma in Secretarial/ Office Administration or related.			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
5	**Marketing/Distribution Officer** Meet with clients to meet their product specification requirements, and negotiates prices. Promote the freshwater aquaculture products to broaden the customer base, and improve prices obtained for the products. Ensure effective distribution of products to clients.	1	College Diploma in Marketing.			
4	**Maintenance Supervisor** Attend to all repairs and maintenance activities	1	NVC Level 4 in Mechanical Engineering or related. Minimum of two years industrial experience.	10	5	
3	**Data Capture Clerk** Based on information provided by management, ensure proper computer record keeping of all data related to management of the farm such as fish growth measured against fish feed used, to maximise profitability.	1	NVC Level 3 in ICT or similar			
2	**Farm Attendant** Look after all direct production activities; stocking, feeding, sampling, harvesting etc.	5	Grade 10. To undergo in-house MFMR Aquaculture Training / Extension programmes			
2	**Processing Attendant** Process the fish (receiving, gutting, cleaning and packing), either for the chilled market or as frozen product.	1	Grade 12. To undergo in-house MFMR Post Harvest Training/ Extension programmes			
2	**Driver**	1	Grade 12. Class 4 driver license			

Indicative list of key competency requirements

Act to prevent interaction with protected species
Administer projects
Adjust and position aquaculture gear
Analyse and present research information
Analyse business performance
Apply quality systems and procedures
Apply basic first aid
Apply sampling procedures
Carry out basic aquaculture activities
Clean fish
Clean work area
Collect and manage data
Communicate electronically
Communicate with the community
Construct or install stock culture, holding and farm structures
Contribute to regional planning process
Coordinate feed activities
Cost a project
Coordinate business resources
Coordinate production of brochures and marketing materials
Coordinate sustainable aquaculture practices
Coordinate the preparation of a regional resource management plan
Cultivate productive working relationships
Deliver a service to customers
Demonstrate knowledge of HIV and AIDS in the workplace
Design and conduct a field-based research trial
Design and produce business documents
Develop a marketing plan
Develop and implement an aquaculture breeding strategy
Develop a whole farm plan
Develop emergency procedures for on-land operations
Develop export markets for produce
Develop, manage and maintain quality systems
Devise and conduct community consultations
Establish an aquaculture enterprise
Extinguish fire by means of basic fire fighting equipment
Facilitate Quality Assurance process
Fillet fish and prepare portions
Grade aquaculture products
Maintain business records
Maintain financial records
Manage people performance
Manage personal work priorities and professional development
Market the small business

Operate hatchery
Operate refrigerated storerooms
Oversee harvest and post-harvest activities
Oversee operations of high technology water treatment components
Oversee production and maintain algal or live-feed cultures
Oversee the control of diseases
Oversee the control of predators and pests
Participate in a HACCP team
Prepare financial reports
Prepare reports
Supervise harvest and post-harvest activities
Supervise work routines and staff performance
Support group and community changes in resource management
Support hatchery operations
Work in a team

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Seafood Processing

Occupational map

Canning, Filleting, Loins, Steaks & Fishmeal

Pelagic / Large Pelagic

Sector:	Seafood Processing
Sub-sector:	Canning, Filleting, Loins, Steaks & Fishmeal
Field:	Pelagic / Large Pelagic
Overview:	The “small pelagic” sector targets pilchard, which is primarily canned in cooked form. Round canned product is sold on the domestic and SADC markets, comprises fish, which is headed, gutted and tails removed, and minced pilchards in a variety of flavours. Some is also exported to the United Kingdom, sold in a Quarter Club rectangular smaller premium cans comprising cooked fillets, again in a variety of flavours. Some pilchard is also processed into frozen cutlets for the SE Asian market - production consists of heading, gutting, tailing and freezing the product. The “large pelagic” fishery is separated into two sectors, one targeting albacore tuna utilising the pole and line fishing method. This fish is sold as mainly whole round frozen product to international canneries, generally in Spain or South East Asia, but at low prices. Fresh albacore as a high quality product yields a much higher return. During November through May, there is a market in Madrid, Spain, for fresh chilled albacore. Namibian landings of fresh albacore occur mainly from February through April. This product is caught by pole and line, and the industry strives to bring it ashore as a high quality product. Local companies have made efforts to value add frozen albacore tuna into products such as loins and steaks for export to Europe, as an alternative to the lower value canned market. They have met market resistance to these products, however, meaning more research will be required to achieve more profitable value addition of frozen albacore. More onshore infrastructure development is also required for further processing of pole and line caught tuna, such as more ice makers to provide vessels with ice to keep the fish chilled, and further development of onshore processing facilities, all of which requires high financial outlay. The second sector targets swordfish and large tunas such as yellowfin and bigeye, with shark as a bycatch, utilising surface longliners. • Swordfish, billfishes and tunas are gilled and gutted, and thenmostly blast frozen at sea and then mostly exported in this relatively unprocessed form when landed. • A portion of the swordfish catch is landed chilled. Namibian processors are packing the fresh swordfish for the US market. • Limited quantities of frozen swordfish and marlin steaks are

	processed ashore. • Tuna, marlin and swordfish products are also produced, aimed at specialist smokeries in Europe. • Sharks are processed and frozen at sea into gutted, headed and tailed trunks. Very little value-addition processing currently occurs in Namibia. • Value adding of shark by skin removal and size grading is occurring. • Value adding of shark liver oil through refining is also an option. • Ongoing efforts are being made to achieve greater value addition of these products in Namibia.
Employment	In 2010, according to the Ministry of Fisheries and Marine Resources, the "small and large pelagic" sectors employed 1954 people. Of these 1442 worked onshore primarily in processing factories. 1102 were men, and 340 were women.
Industry Priorities	• In the small pelagic sector, the main concern is ongoing supply of people with expertise to achieve specific canning requirements. This includes **Seamer Mechanics** who seal the cans, **Retort Operators** who cook the fish inside the cans and ensure it is sterilised, **Quality Inspectors** who check on the quality of the fish and its seafood safety aspects, **Boiler Operators** who ensure there is enough steam for the factory, and **Machine Operators**, the latter two positions also having a maintenance function. Some of these positions require specialist training which currently occurs in house. • With the large pelagic sector moving towards achieving greater value addition of the product, like with the demersal sector, this will require more technical expertise to manufacture the product, both directly inside processing factories, and by support services looking after factory machinery. • At a higher level, good marketing and strategic personnel will be required involved in ensuring that value adding results in greater profitability. • Namibia does not have many qualified Namibians in the marine technical and mechanical fields.

Skills gaps by occupation and level

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
5	**Seafood Safety Manager** In charge of all aspects of seafood safety.	1	Degree in food technology / science.		1	1
5	**Maintenance Foreman** In charge of overseeing maintenance of the cannery, including structural aspects, machinery and seamers.	2	National Certificate in Fitting & Turning or other mechanical area.	1	1	
5	**Vessel Factory Manager** Ensure that all functions/ policies/ procedures related to the quality of fish are adhered to and practically executed on board of wet fish processing in order to land and process good quality fish.		Grade 12 and a minimum of 4 years experience in fish factory management. Certification in HACCP.			
5	**Supervisor** **Quality Control** Must ensure that HACCP seafood safety standards and good manufacturing practises are complied with.	3	Advance HACCP & Hygiene qualification and in-house training.	3	2	
5	**Production Superintendent** Plan, direct and control of all production related activities within the factory Ensure effective production and results in terms of efficiency, yields, quality and costs within budget constraints.	1	Grade 12 (Mathematics and Science) with 5 years experience in white fish processing of which at least three years must be on a supervisory level.			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
5	**Production Cost Controller** Ensure the efficient and profitable operation of the fleet and factory operations in order to realise business success through a strong leadership and value driven approach.		Grade 12 with Mathematics and Accounting as major subjects. Three to four years experience in Cost Analysis is required with sound operational experience in the fishing industry.			
5	**Fishmeal Foreman** In charge of the fishmeal plant – a specialised position due to the uniqueness of the machinery and the fishmeal process.	2	Grade 12 Certificate, and specialised fishmeal manufacturing training.	1		
4	**Canning Master** Specialised position requiring a lot of experience, overseeing the canning process from vessel through sauce preparation, canning, seaming, retorting, product labelling and maintenance.	2	Microbiology qualification as well as HACCP food safety training with special emphasis on canning. National Certificate in Fitting & Turning or other mechanical area an advantage from a maintenance perspective.		1	1
4	**Supervisor – Cleaning and Sanitation** Oversees cleaning team who clean the factory between shifts and during down time to HACCP standards.	1	Grade 12 plus 2 years experience. HACCP training.	1		
4	**Seamer Mechanic (Canning)** In charge of maintenance of can seamer, and ensuring double seam evaluation that seams are in spec. Operates the seamer machine when necessary.	5	Requires specialist in house training. National Certificate in Fitting & Turning or other mechanical area an advantage.	5		

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
4	**Quality Controller** Checks fish coming off vessels, works on the factory lines to ensure quality and seafood safety standards are met, and checks out loading of final product to ensure effective temperature control complied with. Takes fish samples from the vessels and factory lines for laboratory analysis, and for Namibian Standards Institution seafood safety inspectorate personnel. Checks up for non-conformity.	59	Grade 12. HACCP training. 2 years experience.	57		
4	**Production Supervisor** Ensure the best utilisation of the manpower and the equipment in the Factory to ensure optimal productivity levels.	1	Grade 12 and HACCP seafood safety and hygiene training. Also requires the ability to check the integrity of the whole canning process, as well as undertake double seam evaluation of cans.			
4	**Fitter & Turner** Undertakes mechanical maintenance and manufacturing of parts.	3	National Certificate in Fitting & Turning.	1		
3	**Fish Processor** Efficiently and effectively operate as part of the fish processing team. Provide services resulting in producing optimal fish products.	928	Grade 12 Certificate OR Grade 10 Certificate plus 2 years working experience.			
3	**Retort Operator (Canning)** Operates the retort that cooks the fish product once in the sealed can, as well as sterilizing the product.	13	Grade 12 (with pass mark in Mathematics) plus specialised Retort Operator training.	11	15	

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
3	**Store man** Receive, store and issue fish products according to company guidelines. Supervision of the cold storage personnel (forklift drivers, cold store assistants) forms part of the purpose of this position.	7	Grade 12 and 3 years experience as a storekeeper, preferably in a cold store environment and / or certificate / diploma in storekeeping / warehousing and 2 years experience as a storekeeper, preferably in a cold store environment.			
3	**Store man – Packaging** Ensure that the receiving, storing and issuing of packaging material in the production and are done according to company rules and guidelines and thus maintain the smooth running of stores and to ensure that the end users are served on time.		Operates machines with blades, such as fish heading and gutting machines. As well as running the machines, also undertakes basic maintenance.			
3	**Machine Operator** Operates machines with blades, such as fish heading and gutting machines. As well as running the machines, also undertakes basic maintenance.	42	In-house training.			
3	**Boiler Operator (Canning)** Operates the boilers that provide steam for the factory, and undertakes basic maintenance.	4	Grade 12 plus specialised Boiler Operator training.		2	
3	**Production Admin Clerk** Assist the Production Manager with the production administration in order to have proper control over company resources and have reliable information on hand regarding production matters.	11	Grade 12 and National Certificate/Diploma in Office Administration.			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
3	**Cold Storage Receiving Clerk** Receiving of frozen fish products from factory. Ensure that all final products receive from factory is according to the required labelling, temperature, best before, and production dates.	1	Grade 12 (with pass mark in Mathematics) and 2 years experience in receiving and stock control (stock count).			
3	**Cold Storage Operator** Loading of containers, trucks and stock counts of fish products. Booking of fish products from factory. Clean work area including cold stores. Label and palletize products. Withdraw samples, donations and cash sales from the cold stores.	1	Min Grade 12 (Mathematics).			
3	**Safety and Environmental Officer** Ensure the safe and environmentally acceptable operation of each vessel and to provide a link between the company and those onboard the vessels, by performing the roles and responsibility of the Designated Person (DP) in accordance with the International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM Code) and within the framework of the company's Vessel Safety and Environmental Management System (VSEMS).		Grade 12 and a recognized 2 years qualification in the Maritime and/or Safety field. 3 years experience in health, safety and environment. Specific experience in the Maritime/Marine industry will be an added advantage. BE driver's license			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
2	**Fish Plant Labourer** Undertake general work such as: on the jetty; placing fish on production lines for heading, gutting and tailing; handling final product after canning; working in the bagging plant; cleaning at different stages of the production process; and general maintenance.	31	In-house training.			
2	**Cleaner** Responsible for cleaning and sanitation within a seafood processing environment such as safely handling and using chemicals, knowledge of micro-organisms, microbiological contamination and cleaning and sanitation verification.	57	In-house training.			
2	**Drivers & Forklift Driver** Provide general transport, delivery and collection services, including heavy objects, as and when requested by supervisors.	17	Formal code BE/C & forklift or tractor driver certificate.	3		

Indicative list of key competency requirements

Administer projects
Analyse manual handling processes
Apply and monitor food safety requirements
Apply basic food handling and safety practices
Apply good manufacturing practices
Apply cost factors to work practices
Apply basic first aid
Apply quality standards
Apply quality systems and procedures
Apply raw materials, ingredient and process knowledge to production problems
Apply sampling procedures
Assess competence
Assist in implementing a proactive maintenance strategy
Boil and pack products
Clean fish
Clean work area
Clean premises and equipment
Communicate electronically
Conduct routine maintenance
Contribute to development of plant documentation
Contribute to the application of a proactive maintenance strategy
Control and order stock
Coordinate work site activities
Cultivate productive working relationships
Demonstrate commitment and professionalism
Demonstrate knowledge of HIV and AIDS in the workplace
Demonstrate personal drive and integrity
Determine and improve process capability
Develop a workplace-learning environment
Develop teams and individuals
Ensure process improvements are sustained
Establish and maintain the enterprise OHS program
Evaluate a batch of seafood
Extinguish fire by means of basic fire fighting equipment
Facilitate continuous improvement in manufacturing
Facilitate hygiene and sanitation performance
Fill and close product in cans
Follow basic food safety practices
Follow work procedures to maintain quality
Identify equipment faults
Identify problems in electronic control systems
Identify problems in fluid power system
Improve cost factors in work practices
Load and unload goods/cargo

Maintain hygiene standards while servicing a food handling area
Maintain the laboratory/field workplace fit for purpose
Maintain the temperature of seafood
Manage a small team
Manage knowledge and information
Manage meetings
Manage operational plan
Manage recruitment selection and induction processes
Manage seafood processing production units
Meet workplace OHS requirements
Monitor process capability
Monitor process operation
Monitor the implementation of quality and food safety programs
Move materials mechanically using automated equipment
Operate a boiler - basic
Operate a forklift
Operate a freezing process
Operate a heat treatment process
Operate a mixing or blending process
Operate a packaging process
Operate a production process
Operate a retort process
Operate a vehicle-mounted loading crane
Operate a wastewater treatment system
Operate basic equipment
Operate inter related processes in a packaging system
Operate interrelated processes in a production system
Operate pumping equipment
Operate refrigerated storerooms
Participate effectively in a workplace environment
Participate in a HACCP team
Participate in OHS risk control process
Perform basic statistical quality control
Perform basic tests
Plan and achieve change and results
Prepare, pack and dispatch non-live product
Process and maintain workplace information
Process and interpret data
Process and maintain workplace information
Process seafood products
Receive and store stock
Regulate temperature controlled stock
Shift a load using manually-operated equipment
Shift materials safely using manual handling methods
Show leadership in the workplace
Supervise work routines and staff performance
Support and mentor individuals and groups
Support proactive maintenance

Use numerical applications in the workplace
Use product knowledge to complete work operations
Work with temperature controlled stock
Work in a team

Seafood Processing

Occupational map

Filleting & Fishmeal

Demersal

Sector:	Seafood Processing
Sub-sector:	Filleting & Fishmeal
Field:	Demersal
Overview:	The Ministry of Fisheries and Marine Resources has a policy of promoting onshore employment in the hake sector, by requiring the majority of hake to be landed fresh, covered in ice, for processing onshore. This also provides the opportunity for promoting more value adding, as the fish can be processed into a range of product forms such as fillets, loins, central fillet and belly portions, to meet client specifications and are sold as branded products into the retail primarily supermarket sector, and also into the foodservice sector for use by restaurant and institutions that cook for a lot of people. Seafood produced by the demersal sector is mainly exported to Europe, other key markets including South Africa, the USA and Australia.
Employment	In 2010, according to the Ministry of Fisheries and Marine Resources, the "demersal" sector employed 9306 people. Of these, 6995 worked onshore primarily in processing factories. 2959 were men, and 4036 were women.
Industry Priorities	• Value adding means more technical expertise is required to manufacture the product, both directly inside processing factories, and by support services looking after factory machinery. • At a higher level, good marketing and strategic personnel are required involved in ensuring that value adding results in greater profitability. • Namibia does not have many qualified Namibians in the marine technical and mechanical fields. • Would like to see more qualified people to operate and repair most equipment and machinery in the fish processing plant/production areas. • In order to get the required detailed industry needs it would be imperative that the service providers be approached, as many fishing / processing companies outsource their maintenance needs to established engineering companies. They would have more up-to-date and relevant information on skills shortages and the current state of training. • Better-trained Production Supervisors in fish processing required. • Need more computer literacy training in the industry. • More "planning skills" need to be applied in maritime training with regards vessels and fish quality assurance.

	• Skills shortages were indicated for the following positions: - **Production Cost Controller;** - **Production Superintendent;** - **Production Supervisor;** - **Production Admin Clerk;** - **Marel Production System Technician;** - **Marel Production System Administrator;** - **Factory Technical Superintendent;** - **Vessel Factory Manager;** - **Cold Storage Receiving Clerk;** - **Cold Storage Loading Master;** - **Cold Storage Operator;** - **Supervisor Quality Control;** - **Supervisor Cleaning and Sanitation;** - **Supervisor Building and Maintenance;** - **Safety and Environmental Officer** - **Foreman Refrigeration;** - **Refrigeration Mechanic;** - **Assistant Refrigeration Mechanic;** - **Refrigeration Operator;** - **Baader Mechanic;** - **Store man;** - **Factory Electrician;** - **Factory Assistant Electrician**; - **Engineering Maintenance Assistant;** - **Truck Driver;** - **Forklift Driver.**

Skills gaps by occupation and level

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
5	**Supervisor Quality Control** Must ensure that HACCP seafood safety standards and good manufacturing practises are complied with.	11	Grade 12 Maths and Biology Food Science Degree or Diploma. 3 years experience.	1	1	
5	**Production Superintendent** Plan, direct and control of all production related activities within the factory Ensure effective production and results in terms of efficiency, yields, quality and costs within budget constraints.	10	Grade 12 (Mathematics and Science). Supervisory training and 5 years experience in white fish processing of which at least three years must be on a supervisory level.	3		
5	**Production Cost Controller** Ensure the efficient and profitable operation of the fleet and factory operations in order to realise business success through a strong leadership and value driven approach.	1	Grade 12 with Mathematics and Accounting as Major Subjects Three to Four Years Experience in Cost Analysis is required with sound operational experience in the Fishing Industry.			
5	**Factory Technical Superintendent** Oversees all technical matters in the factory.	4	Artisan e.g. Millwright, Fitter, Electrician, or technical diploma. 5 years experience	2	3	
5	**Vessel Factory Manager** Ensure that all functions/ policies/ procedures related to the quality of fish are adhered to and practically executed on board of wet fish processing in order to land and process good quality fish.	14	Grade 12 and a minimum of 4 years experience in fish factory management Certification in HACCP, and Fish Processing training.	2		

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
5	**Foreman Refrigeration** Repair and maintain the refrigeration and ice plant. To ensure that the air conditions are in working conditions. Continuously improve the process and equipment performance by upgrading processes and equipment.	4	Grade 12 Certificate Qualified Artisan: Refrigeration Code BE Drivers License. Minimum five (5) years refrigeration maintenance experience	1	2	
4	**Refrigeration Mechanic** Maintain and repair all refrigeration plant and equipment.	6	Qualified Artisan: Refrigeration Minimum 3 years refrigeration maintenance experience. With 3-5 years experience in an industrial ammonia plant.	2	1	
4	**Baader Mechanic** Achieve optimum yield on all fish processing machinery at all times. In addition, the incumbent is responsible to manufacture parts used on a frequent basis.	7	Grade 12 Qualified Artisan (Fitter and/or Turner), Millwright Minimum 5 years experience on fish processing equipment Additional training: up to 1 year (or longer) “highly specialised”	5	2	
4	**Factory Electrician** To ensure that all electrical equipment is maintained and remain in a good working condition at all times. Ensure electricity safety, health and safety procedures are adhered to. Training of subordinates on the job.	2	Grade 12 Certificate Qualified Artisan: Electrical Two (2) to three (3) years experience in the fishing industry. Code BE Drivers License	1		
4	**Plumber** Repair and maintain water leaks geysers, drainage and sewerage pumps.	2	Minimum Grade 10 Two (2) years experience as Plumber NVC L4 in Plumbing			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
4	**Maintenance Fitter** The objective of the incumbent is to ensure the overall maintenance of the factory equipment and machinery on land. The incumbent must build and weld additional equipment where necessary (e.g. welding stairs on conveyers).	13	Grade 12 Qualified Fitter (Trade Test Level NVC III or N3) Must have 3 years experience in the fishing industry as a maintenance fitter			
4	**Production Supervisor** Ensure the best utilisation of the manpower and the equipment in the Factory to ensure optimal productivity levels.	65	Grade 12 Certificate with a pass mark in Mathematics and Science Fish Processing and Supervisory training 3 years experience in white fish processing	32	1	1
4	**Marel Production System Technician** Under limited supervision, regularly confers with user departments to administer the factory's advanced computerised information and production system (MAREL). Also perform hardware maintenance and repairs of machinery and equipment in the factory.	4	Grade 12 with a pass mark in Mathematics and Physical Science plus 5 years experience in System Administration or equivalent ORQualified Artisan (N3) or 3 years technical qualification in Electronics/Electrical plus 2 – 4 years experience in a similar work environment Code BE Drivers License	1	2	
4	**Senior Operator Fishmeal** Operate the fishmeal plant according to company requirements.	2	Grade 12 Certificate.			
4	**Marel Production System Administrator** Under limited supervision, regularly confers with user departments to administer the factory's advanced computerised information and production system.	3	Grade 12 Certificate plus 3 years experience in System Administration or equivalent.	1		

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
4	**Supervisor – Cleaning and Sanitation** Oversees cleaning team who clean the factory between shifts and during down time to HACCP standards.	8	Grade 12 plus 2 years experience. HACCP training.	1		
4	**Supervisor - Building and Maintenance** In control of building maintenance, building projects, renovations, carpentry, upgrading of existing buildings and company housing.	5	Grade 10Certificate. 3 year experience as qualified builder.	2	3	1
4	**Quality Controller** Checks fish coming off vessels, works on the factory lines to ensure quality and seafood safety standards are met, and checks out loading of final product to ensure effective temperature control complied with. Takes fish samples from the vessels and factory lines for laboratory analysis, and for Namibian Standards Institution seafood safety inspectorate personnel. Checks up for non-conformity.	24	Grade 12 HACCP training 2 years experience			
4	**Cold Storage Loading Master** Ensure that final product is loaded according to instructions on the sales order to optimise container/truck capacity. Adhere to all HACCP requirements.	6	Grade 12 (with pass mark in Mathematics) and 2 years experience in a similar environment **or** Grade 10 (with a pass mark in Mathematics) and 5 year experience in a similar environment.	2		

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
3	**Safety and Environmental Officer** Ensure the safe and environmentally acceptable operation of each vessel and to provide a link between the company and those onboard the vessels, by performing the roles and responsibility of the Designated Person (DP) in accordance with the International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM Code) and within the framework of the company's Vessel Safety and Environmental Management System (VSEMS).	6	Grade 12 and a recognized 2 years qualification in the Maritime and/or Safety field. 3 years experience in health, safety and environment. Specific experience in the Maritime/Marine industry will be an added advantage. BE driver's license		1	
3	**Fish Processor** Efficiently and effectively operate as part of the fish processing team. Provide services resulting in producing optimal fish products.	2698	Grade 12 Certificate OR Grade 10 Certificate plus 2 years working experience			
3	**Cold Storage Receiving Clerk** Receiving of frozen fish products from factory. Ensure that all final products receive from factory is according to the required labeling, temperature, best before, and production dates.	12	Grade 12 (with pass mark in Mathematics) and 2 years experience in receiving and stock control (stock count).	2	2	
3	**Fishmeal Operator** Receive dry fish products and to efficiently and effectively feed raw material into the drum dryer.	11	Grade 10 Certificate			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
3	**Cold Storage Operator** Loading of containers, trucks and stock counts of fish products. Booking of fish products from factory. Clean work area including cold stores. Label and palletize products. Withdraw samples, donations and cash sales from the cold stores.	15	Min Grade 12.	1		
3	**Production Admin Clerk** Assist the Production Manager with the production administration in order to have proper control over company resources and have reliable information on hand regarding production matters.	7	Grade 12 with a pass mark in English and Mathematics plus 2 years experience in the fishing industry with Microsoft Office operating skills.	2		
3	**Storeman** Receive, store and issue fish products according to company guidelines. Supervision of the cold storage personnel (forklift drivers, cold store assistant) forms part of the purpose of this position.	13	Grade 12 (with pass marks in English and Mathematics) and 3 years experience as a storekeeper, preferably in a cold store environment and / or certificate / diploma in storekeeping / warehousing and 2 years experience as a storekeeper, preferably in a cold store environment.	1		
3	**Storeman – Packaging** Ensure that the receiving, storing and issuing of packaging material in the production and are done according to company rules and guidelines and thus maintain the smooth running of stores and to ensure that the end users are served on time.	8	Grade 12 Certificate with a pass mark in Mathematics and Science. 5 years experience in white fish processing.			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
3	**Engineering Maintenance Assistant** Assist the maintenance fitter/factory engineer, the Baader technician and assistant maintenance fitter in maintaining land –based equipment.	6	Grade 10 (with mathematics as major subject) and 3 years experience as a maintenance operator / or experience related to the maintenance of Baader machines / Trio machines / carton sealer.	1	1	1
3	**Refrigeration Operator** Perform operational and maintenance duties as required. Assist with the maintenance and repair of the main / ice plant, and air conditioners.	14	Grade 12 Certificate. 2 years Refrigeration Experience in the Fishing Industry **or**NVC Level 3 (Refrigeration and Air Conditioning).	3		
2	**Truck Driver** Provide general transport, delivery and collection services between factories and town as directed by the Production Supervisor	8	Grade 10. Code 11 Drivers License up to 16 tonnes. 2 Years transport experience.	3		
2	**Forklift Driver** Provide general transport, delivery and collection services of heavy objects as and when requested by the supervisors.	53	Grade 10 plus 2 years Forklift Driving experience OR Grade 10 with a pass mark in English plus 3 years relevant experience. Certified Forklift Driver	13	2	2
2	**Factory Assistant Electrician** Performs maintenance and repair work and assists the factory electrician and alteration work assigned to the department.	8	Grade 12 Certificate 2 years Electrical experience in the Industry. Code BE drivers license. NVC L2 Electrician.	1	3	
2	**Assistant Refrigeration Mechanic** Assists with maintenance, service and repairs of the refrigeration plant, ice plant, air-conditioners and cooling equipment.	9	Grade 10 or 12 with pass marks in Maths & Science. NVC L2 Refrigeration. Must have Code BE driver's license	5		

Indicative list of key competency requirements

Apply basic first aid
Apply and monitor food safety requirements
Apply basic food handling and safety practices
Apply good manufacturing practices
Apply cost factors to work practices
Apply quality standards
Apply quality systems and procedures
Apply raw materials, ingredient and process knowledge to production problems
Apply sampling procedures
Assist in implementing a proactive maintenance strategy
Boil and pack products
Conduct internal food safety audits
Conduct routine maintenance
Control and order stock
Coordinate work site activities
Deliver a service to customers
Demonstrate knowledge of HIV and AIDS in the workplace
Ensure process improvements are sustained
Evaluate a batch of seafood
Extinguish fire by means of basic fire fighting equipment
Facilitate continuous improvement in manufacturing
Facilitate hygiene and sanitation performance
Fillet fish and prepare portions
Implement the food safety program and procedures
Implement a competitive manufacturing system
Implement continuous improvement
Implement the pest prevention program
Load and unload goods/cargo
Maintain hygiene standards while servicing a food handling area
Maintain the laboratory/field workplace fit for purpose
Maintain the temperature of seafood
Manage an information or knowledge management system
Manage knowledge and information
Manage meetings
Manage operational plan
Manage people performance
Manage seafood processing production units
Meet workplace OHS requirements
Monitor process operation
Monitor the implementation of quality and food safety programmes
Operate a production process
Participate effectively in a workplace environment
Participate in a HACCP team
Participate in environmentally sustainable work practices

Perform basic statistical quality control
Perform basic tests
Prepare, pack and dispatch stock for live transport
Process and maintain workplace information
Process seafood products
Provide practical and/or commercial advice to seafood users
Produce technical reports on seafood processing systems
Receive and distribute product
Receive and store stock
Report on workplace performance
Shift a load using manually-operated equipment
Shift materials safely using manual handling methods
Show leadership in the workplace
Supervise work routines and staff performance
Support proactive maintenance
Sustain process improvements
Use product knowledge to complete work operations
Work with knives
Work with temperature controlled stock
Work in a team

Seafood Processing

Occupational map

Frozen Whole, Filleting & Fishmeal

Midwater Trawl (Horse Mackerel)

Sector:	Seafood Processing
Sub-sector:	Frozen Whole, Filleting & Fishmeal
Field:	Midwater Trawl (Horse Mackerel)
Overview:	Horse mackerel is a low value species with high production volumes of around 250,000 tonnes currently, which sells best in an unprocessed form into the African market. Consequently it is sold frozen whole in 10 kilogramme blocks and packed into 20-30 kilogramme master cartons. The majority of this product is mostly sold into the highly populated Democratic Republic of the Congo, as well as other West African and SADC countries to large wholesalers, who then on sell it to street sellers mostly who sell it as is, or add value at very little cost by drying it, producing smoked product, or cooking it. The Namibian fishing companies have managed to add value by ensuring the fish is well iced as soon as it is brought on-board, ensuring there is no fish spoilage prior to being processed in the on-board factory. Experimentation has been undertaken to fillet the fish at sea, but original efforts were not cost effective. There is openness to finding ways of value adding the product, but currently minimising production costs and maximising factory throughput have proved the most profitable. The Government is looking for higher value markets to be found for the product over time, requiring more sophisticated forms of processing onshore, creating more jobs. Fishmeal is a side product.
Employment	In 2010, according to the Ministry of Fisheries and Marine Resources, the "midwater trawl" sector employed 1029 people. Of these, 904 worked offshore on fishing vessels. 875 were men, and 29 were women. A further 125 people worked onshore as support for vessel operations, and as management and admin, marketing the product into Africa.
Industry Priorities	• Namibian skills shortages exist at the higher level such **Chief Technologists**, **Fishmeal Operators**, and **Refrigeration Motormen** level, but as Namibian's master the factory operations, these positions should be filled in the next 5 -10 years.

Skills gaps by occupation and level

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
5	**Chief Technologist** Responsible for all gears in factory, keep stock and ordering for production, manage safety of department.	8	Grade 12. Knowledge of factory equipment and safety requirements, good management and administration experience, HACCP seafood safety knowledge.	10	4	1
5	**On-board Quality Controller** Ensures seafood safety quality of fish.	11	Grade 12. Diploma in Food Hygiene. HACCP knowledge. 2-3 years work experience.			
4	**Fish Master** Supervisor in factory, reporting to Chief Technologist and responsible for gear and material used in production.	8	Grade 12. Supervisory expertise. 5-7 years fishing experience. On-vessel training.	2	1	
3	**Fishmeal Operator** Knowledge of production quality and manufacturing processes. Monitor quality of raw material and finished goods. Keep account with production and storage as well as delivery.	13	Grade 12. 5-7 years fishing experience with good knowledge of fishmeal equipment operation.	13	8	5
3	**Assistant Fish Master** Reports to Chief Technologist and assists the Fish Master in factory.	9	Grade 12. Good knowledge of fish factory gear and material used in production. 3-4 years fishing experience.			
3	**Refrigeration Motorman** Assist Refrigeration Mechanic.	8	Grade 12. Marine Motorman Grade 2.	10	6	2
2	**Holdman** Works in fish hold in sub zero temperatures packing, strapping, and stowage of boxes.	54	Grade 12. 2 years fishing experience. Employed from “casual” positions.			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
2	**Factory hand** Work in fishmeal plant, factory and refrigeration holds, process fish, pack boxes, stevedoring, grading, loading and unloading of freezers and frozen block packing	298	Grade 12. 2 years fishing experience. Employed from "casual" positions.			

Indicative list of key competency requirements

Analyse information to develop strategic seafood management options
Apply and monitor food safety requirements
Apply basic food handling and safety practices
Apply good manufacturing practices
Apply basic first aid
Apply quality standards
Apply quality systems and procedures
Apply sampling procedures
Boil and pack products
Conduct routine maintenance
Control and order stock
Coordinate work site activities
Demonstrate knowledge of HIV and AIDS in the workplace
Extinguish fire by means of basic fire fighting equipment
Ensure process improvements are sustained
Evaluate a batch of seafood
Facilitate continuous improvement in manufacturing
Facilitate hygiene and sanitation performance
Identify equipment faults
Implement the food safety program and procedures
Implement a competitive manufacturing system
Implement continuous improvement
Load and unload goods/cargo
Maintain hygiene standards while servicing a food handling area
Maintain the laboratory/field workplace fit for purpose
Maintain the temperature of seafood
Manage a small team
Manage people relationships
Monitor the implementation of quality and food safety programs
Monitor the seafood business environment to determine threats and opportunities
Operate a freezing process
Operate a packaging process
Operate a production process
Operate basic equipment
Operate refrigerated storerooms
Plan, organise and facilitate learning in the workplace
Plan or review administrative systems
Receive and store stock
Shift a load using manually-operated equipment
Shift materials safely using manual handling methods
Show leadership in the workplace
Work in a team
Work with temperature controlled stock

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Ports and Harbours

Occupational map

Operations

Bulk and Break Bulk

Sector:	Ports and Harbours
Sub-sector:	Operations
Field:	Bulk and Break Bulk
Overview:	Ports and Harbours are a key commercial component in terms of developing the on-going and future competitiveness of the Namibian economy. Namport, since 1994 operating as the National Ports Authority in Namibia, currently operates as the centre of Namibia's ports and harbours sector, and manages both the Port of Walvis Bay and the Port of Lüderitz in Namibia. Namport's key roles are to: • Manage the port facilities to cater for current trade needs • Develop the ports for future demands • Contribute to the competitiveness of the SADC region's trade through the efficient, reliable and cost-effective supply of port services • Facilitate economic growth in Namibia by enabling regional development and cross-border trade • Prmote the Ports of Walvis Bay and Lüderitz as preferred routes for sea-borne trade between SADC, Europe and the Americas • As the founding architects of the Walvis Bay Corridor Group, assist with developing cross-border trade • Minimize the impact of port operations on the natural environment by applying International Organisation for Standardisation ISO 14001 (*source: Namibian Ports Authority Annual Report, 2009)*. Key departments relating to maritime activities: • Marine (port operations including marine pilots, port control, and tug operations) • Buk & Breakbulk (cargo such as fuel, fish, sulphur, and general cargo) • Enineering (port engineering including growth, statutory, and maintenance projects) • Container Terminal (containerised cargo) • Syncrolift (a dry dock facility) • Tecnical (technical services supporting the port).

Employment	Out of a total number of 763 staff members, Namport employed 150 people in its Bulk and Break Bulk Cargo department in 2011.
Industry Priorities	• General port operations training required. • Training required for mechanical lifting equipment operators – skills shortage. • Shortage of vessel planners. • Computer training to achieve effective cargo planning required – linking cargo loading / unloading with vessel ballast water quantities to optimise vessel stability. • Tally Clerks need training, as port is moving into computerised automation – tracking cargo within the port. • There is a skills shortage for General Worker / Senior positions, as often are not able to read or write. Also the people in the positions are getting old, the industry becoming too challenging and complex for them now. • Basic literacy, mathematics and science skills shortage.

Skills gaps by occupation and level

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
6	**Manager: Bulk & Break bulk**	1	Port Management Diploma or equivalent; 10 years relevant experience of which 3 years should be at management level	1	1	
5	**Head: Bulk & Break bulk** Supervises day-to-day vessel and operational planning processes in order to fully optimize resources within the parameters of customer requirements and Namport business objectives.	1	Grade 12 or equivalent, 3-year relevant diploma or degree. 5 years relevant experience.	1	1	
4	**Equipment Coordinator (Bulk & Break bulk)** Guides Equipment Operators in ensuring that the operation meets the priorities of the operational plan and maximize the terminal's productivity.	1	Grade 12 or equivalent, 2 years equipment operating experience			
4	**Senior Cargo Coordinator (C and D-SHED)** Plans, leads, organise and controls daily activities of all cargo, container and break bulk operations.	3	Grade 12 or equivalent, 1-year relevant certificate. 3 years relevant experience which 1- year should have been in a supervisory position.	3	3	
4	**Cargo Coordinator** Plans, organises and controls daily activities of all relevant staff assigned to specific task or operation.	15	Grade 12 or equivalent, 1-year relevant certificate, 2 years relevant experience		10	
3	**CAT 3 - Mechanical Lifting Operator** Operates the mechanical lifting equipment by loading and offloading cargo and placing within the port area.	11	Grade 10 or equivalent, Code 11 Driver's license, 2 years relevant experience	11	11	

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
3	**Tally Clerk** Checks, counts and records full particulars of all types of cargo and containers stored and shipped within the port.	7	Grade 12 (10) or equivalent; 6 (18) months experience in cargo operations/administration	7	7	2
3	**Manifest Clerk** Receives landing and shipping documents from Marketing and to deliver break bulk.	2	Grade 12 or equivalent, 1-year relevant experience	2	2	
3	**CAT 5 – Mechanical Lifting Operator** Transports, loads, and offloads cargo within the port area.	25	Grade 10 or equivalent, Code 08 Driver's license, 2 years relevant experience	25	10	
2	**General Worker / Senior** Performs all general work/duties pertaining to Cargo Services.	37	Basic literacy	37	47	67

Indicative list of key competency requirements

Administer first aid
Apply safe work practices in the workplace
Apply sustainable environmental management practices as a workplace supervisor
Carry out cargo handling on and off a vessel
Carry out signalman duties for cargo operations
Carry out yard operations in a port environment
Clean cargo handling machinery, equipment, and wharf surface, and clean up non-hazardous spillages
Communicate information within the workplace
Complete an incident report
Conduct an assessment of risk in the workplace
Demonstrate knowledge of, and carry out, hazard management procedures within a port environment
Demonstrate knowledge of, and safely attach loads of cargo under supervision
Demonstrate and apply knowledge of safe manual handling practices
Demonstrate knowledge of dangerous goods for cargo operations
Demonstrate knowledge of managing response to an emergency in a port environment
Demonstrate knowledge of workplace health and safety requirements
Demonstrate knowledge of cargo operations and environmental impact
Demonstrate knowledge of, and carry out, hazard management procedures within a port environment
Demonstrate knowledge of dangerous goods as a cargo handler
Demonstrate knowledge of HIV and AIDS in the workplace
Demonstrate knowledge of workplace communications requirements
Demonstrate introductory knowledge of port cargo operations
Demonstrate knowledge of hazards and hazard reporting, and use personal protective equipment in a port environment
Describe port security responsibilities as a cargo handler
Describe and use a data transfer system for cargo movements
Describe hazards and their control for bulk dry cargo loading, unloading, and trimming
Drive a motor vehicle within a port environment
Explain safe work practices for working at heights
Fill in a form
Give oral instructions in the workplace
Identify and manage the effects of shift work
Improve the customer relationship
Investigate, report, and follow through on incident and accident events within a port environment
Make initial investigations into incidents in ports
Maintain security in ports
Maintain wharf-side personal safety
Maintain environmental good practice within ports
Manage port users in an emergency
Monitor and solve customer service problems
Monitor procedures to control risk to health and safety
Operate a butting machine for port log loading operations
Operate a powered industrial lift truck (PILT) fitted with attachments on a worksite
Operate a powered industrial lift truck fitted with forks (forklift)
Organise the delivery of reliable customer service
Plan and coordinate cargo operations
Plan vessel loading and discharge within a port environment
Plan and implement a lifting plan

Prepare for and manage marshalling of import and export cargo
Prepare for vessel cargo operations within a port environment
Promote and maintain security in ports
Promote health and safety in ports
Provide customer service in given situations
Provide first aid
Provide leadership for your team
Provide learning opportunities for colleagues
Receive and deliver cargo
Respond to on-shore-based emergency situations
Respond to an incident within a port environment
Secure break bulk cargoes
Supervise vessel cargo handling
Suppress fire with hand extinguishers and fixed hose reels in the workplace
Survive in the water
Take action to reduce risk to health and safety within a port environment
Unpack and pack an ISO type container
Undertake safety inspections
Work safely with dangerous cargo
Work safely near water
Work safely at heights
Work with others to improve customer service
Work in a team

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Ports and Harbours

Occupational map

Operations

Container Terminal

Sector:	Ports and Harbours
Sub-sector:	Operations
Field:	Container Terminal
Overview:	Ports and Harbours are a key commercial component in terms of developing the on-going and future competitiveness of the Namibian economy. Namport, since 1994 operating as the National Ports Authority in Namibia, currently operates as the centre of Namibia's ports and harbours sector, and manages both the Port of Walvis Bay and the Port of Lüderitz in Namibia. Namport's key roles are to: • Manage the port facilities to cater for current trade needs • Develop the ports for future demands • Contribute to the competitiveness of the SADC region's trade through the efficient, reliable and cost-effective supply of port services • Facilitate economic growth in Namibia by enabling regional development and cross-border trade • Prmote the Ports of Walvis Bay and Lüderitz as preferred routes for sea-borne trade between SADC, Europe and the Americas • As the founding architects of the Walvis Bay Corridor Group, assist with developing cross-border trade • Minimize the impact of port operations on the natural environment by applying International Organisation for Standardisation ISO 14001 (*source: Namibian Ports Authority Annual Report, 2009)*. Key departments relating to maritime activities: • Marine (port operations including marine pilots, port control, and tug operations) • Buk & Breakbulk (cargo such as fuel, fish, sulphur, and general cargo) • Enineering (port engineering including growth, statutory, and maintenance projects) • Container Terminal (containerised cargo) • Syncrolift (a dry dock facility) • Tecnical (technical services supporting the port).

Employment	Out of a total number of 763 staff members, Namport employed 248 people in its Container Terminal department in 2011.
Industry Priorities	• The Container Terminal cargo volume will grow fast in the coming years. • General port operations training required, particularly for older, low qualified General Worker / Senior positions. • Training required for mechanical lifting equipment operators – critical skills shortage as don't have professionally "certified" operators – in South Africa there is a Port Academy to undertake this training. Currently in Namibia there is no in house training in this area. • Shortage of vessel planners. • Computer training to achieve effective cargo planning required – linking cargo loading / unloading with vessel ballast water quantities to optimise vessel stability. • Tally Clerks need training, as port is moving into computerised automation – tracking cargo containers within the port. • Yard Planners make sure containers don't get lost and there is a skills shortage as they require maths skills, and training in logistics and value chain skills specific to ports. • There is a skills shortage for General Worker / Senior positions, as often are not able to read or write. Also the people in the positions are getting old, the industry becoming too challenging and complex for them now. • Basic literacy, mathematics and science skills shortage.

Skills gaps by occupation and level

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
6	**Manager: Container Terminal**	1	Port Management Diploma or equivalent. 10 years relevant experience of which 3 years should be at management level.	1	1	2
5	**Head: Container Terminal** Supervises day-day container terminal, vessel and operational planning processes in order to fully optimize terminal resources within parameters of customer requirements and Namport business objectives.	1	Grade 12 or equivalent, 3-year relevant diploma or degree. 5 years relevant experience		1	2
4	**Senior Planning Coordinator**	1	Grade 12 or equivalent, relevant 3-year diploma or 5 years relevant experience	2	2	
4	**Gate Coordinator** Supervises and ensure that the gate maintain smooth traffic control flow by assisting truckers/haulers with the gate processes and look after lanes and the gate equipment.	1	Grade 12 or equivalent. 2 years relevant experience.			
4	**Equipment Coordinator** Guides Equipment Operators in ensuring that the operation meets the priorities of the operational plan and maximize the terminal's productivity.	3	Grade 12 or equivalent, 2 years equipment operating experience.		1	2
4	**Senior Cargo Operator** Supervisor of Cargo Coordinators.	3	Grade 12 or equivalent, 1 year relevant certificate. 3 years relevant experience which 1- year should have been in a supervisory position.		3	

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
4	**Cargo Coordinator** Plans, organises and controls daily activities of all relevant staff assigned to specific task or operation	14	Grade 12 or equivalent, 1-year relevant certificate. 2 years relevant experience		6	
4	**Container Coordinator: Exports** Coordinates all processes on export containers	1	Grade 12 or equivalent, 1-year year relevant certificate or experience		1	
4	**Container Coordinator: Imports** Coordinate all processes on import containers	2	Grade 12 or equivalent, 1-year year relevant certificate or experience		1	
4	**Yard Planner** Responsible for planning and controlling the complete yard process in order to achieve maximum productivity and efficiency with due consideration to vessel and intermodal.	3	Grade 12 or equivalent, 1-year relevant certificate. 2 years relevant experience	5	3	2
4	**CAT 1 – Mechanical Lifting Operator** Operates the Mobile tower cranes above 30,000 kg	22	Grade 12 or equivalent, Code 11 Driver's license, 5 years relevant experience	25	5	15
3	**Data Capturer** Coordinates all data capturing and other related processes on import containers	4	Grade 12 (10) or equivalent, 1-year relevant Certificate in Port related studies or logistics; 1 year relevant experience			
3	**CAT 2 – Mechanical Lifting Operator** Operates mechanical lifting and stacking equipment by moving and placing cargo in the port area	49	Grade 10 or equivalent, Code 11 Driver's license, 3 years relevant experience		10	10

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
3	**Tally Clerk** Checks, counts and records full particulars of all types of cargo and containers stored and shipped within the port.	21	Grade 12 (10) or equivalent; 6 (18) months experience in cargo operations/ administration	21	9	15
3	**Vessel Planner** Plans the discharge and loading operations in consideration with time, vessel stability, safety and cargo segregation in order to meet the requirements and level of productivity set by operations	3	Grade 12 or equivalent, 1-year relevant certificate. 2 years relevant experience.			
3	**CAT 4 – Mechanical Lifting Operator** Transports, loads, and offloads cargo within the port area	71	Grade 10 or equivalent, Code 10 Driver's license, 2 years relevant experience			
2	**General Worker / Senior** Performs all general work/duties pertaining to Cargo Services	48	Basic Literacy			

Indicative list of key competency requirements

Administer first aid
Apply safe work practices in the workplace
Apply sustainable environmental management practices as a workplace supervisor
Carry out cargo handling on and off a vessel
Carry out reefer monitor duties
Carry out signalman duties for cargo operations
Carry out yard operations in a port environment
Clean cargo and ISO containers to regulatory requirements in a port environment
Clean cargo handling machinery, equipment, and wharf surface, and clean up non-hazardous spillages
Communicate information within the workplace
Complete an incident report
Conduct an assessment of risk in the workplace
Demonstrate knowledge of, and carry out, hazard management procedures within a port environment
Demonstrate knowledge of, and safely attach loads of cargo under supervision
Demonstrate and apply knowledge of safe manual handling practices
Demonstrate knowledge of dangerous goods for cargo operations
Demonstrate knowledge of managing response to an emergency in a port environment
Demonstrate knowledge of workplace health and safety requirements
Demonstrate knowledge of cargo operations and environmental impact
Demonstrate knowledge of, and carry out, hazard management procedures within a port environment
Demonstrate knowledge of dangerous goods as a cargo handler
Demonstrate knowledge of HIV and AIDS in the workplace
Demonstrate knowledge of workplace communications requirements
Demonstrate introductory knowledge of port cargo operations
Demonstrate knowledge of hazards and hazard reporting, and use personal protective equipment in a port environment
Describe port security responsibilities as a cargo handler
Describe and use a data transfer system for cargo movements
Describe hazards and their control for bulk dry cargo loading, unloading, and trimming
Drive a motor vehicle within a port environment
Explain safe work practices for working at heights
Fill in a form
Give oral instructions in the workplace
Identify and manage the effects of shift work
Improve the customer relationship
Investigate, report, and follow through on incident and accident events within a port environment
Make initial investigations into incidents in ports
Maintain security in ports
Maintain wharf-side personal safety
Maintain environmental good practice within ports
Manage port users in an emergency
Monitor and solve customer service problems
Monitor procedures to control risk to health and safety
Operate a butting machine for port log loading operations
Operate a powered industrial lift truck (PILT) fitted with attachments on a worksite
Operate a powered industrial lift truck fitted with forks (forklift)
Organise the delivery of reliable customer service
Plan and coordinate cargo operations

Plan vessel loading and discharge within a port environment
Plan and implement a lifting plan
Prepare for and manage marshalling of import and export cargo
Prepare for vessel cargo operations within a port environment
Promote and maintain security in ports
Promote health and safety in ports
Provide customer service in given situations
Provide first aid
Provide leadership for your team
Provide learning opportunities for colleagues
Receive and deliver cargo
Respond to on-shore-based emergency situations
Respond to an incident within a port environment
Supervise vessel cargo handling
Suppress fire with hand extinguishers and fixed hose reels in the workplace
Survive in the water
Take action to reduce risk to health and safety within a port environment
Unpack and pack an ISO type container
Undertake safety inspections
Work safely with dangerous cargo
Work safely near water
Work safely at heights
Work with others to improve customer service
Work in a team

Ports and Harbours

Occupational map

Operations

Engineering

Sector:	Ports and Harbours
Sub-sector:	Operations
Field:	Engineering
Overview:	Ports and Harbours are a key commercial component in terms of developing the on-going and future competitiveness of the Namibian economy. Namport, since 1994 operating as the National Ports Authority in Namibia, currently operates as the centre of Namibia's ports and harbours sector, and manages both the Port of Walvis Bay and the Port of Lüderitz in Namibia. Namport's key roles are to: • Manage the port facilities to cater for current trade needs • Develop the ports for future demands • Contribute to the competitiveness of the SADC region's trade through the efficient, reliable and cost-effective supply of port services • Facilitate economic growth in Namibia by enabling regional development and cross-border trade • Prmote the Ports of Walvis Bay and Lüderitz as preferred routes for sea-borne trade between SADC, Europe and the Americas • As the founding architects of the Walvis Bay Corridor Group, assist with developing cross-border trade • Minimize the impact of port operations on the natural environment by applying International Organisation for Standardisation ISO 14001 (*source: Namibian Ports Authority Annual Report, 2009)*. Key departments relating to maritime activities: • Marine (port operations including marine pilots, port control, and tug operations) • Buk & Breakbulk (cargo such as fuel, fish, sulphur, and general cargo) • Enineering (port engineering including growth, statutory, and maintenance projects) • Container Terminal (containerised cargo) • Syncrolift (a dry dock facility) • Tecnical (technical services supporting the port).

Employment	Out of a total number of 763 staff members, Namport employed 24 people in its Engineering department in 2011.
Industry Priorities	• Shortage of **Civil Engineers** • Training required for Computer Added Drawings (CAD) • Port related infrastructure maintenance and design skills needed.

Skills gaps by occupation and level

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
6+	**Executive Port Engineer**	1	BSc. PrEng in Civil Engineering or equivalent. 10 years in general civil engineering capital project environment of which 5 years should be on construction site and 5 years in maintaining civil engineering works in sea port environment	2	1	
6+	**Engineer: Projects** Plan, co-ordinates and compiles specifications for projects and management thereof to meet the requirements for Namport business.	1	BSc. PrEng in Engineering or equivalent. 5 years in general civil engineering capital project environment of which 3 years should be on construction site and 2 year in detailed design work in a port	2	2	
6	**Manager: IT Systems and Services**	1	Bachelor's degree in IT or equivalent. 5 years relevant experience of which 3 years should be on management level	2	1	
6	**Manager: Business Applications**	1	B.Com. or equivalent. 8 years relevant experience of which 3 years should be on management level	2	1	
6	**Engineer Infrastructure & Maintenance**	1	BSc. PrEng In Engineering or equivalent. BSc. PrEng In Engineering or equivalent	2	2	
5	**Head: Systems & Services** To ensure high availability, performance and stability of Namport Technical systems environment by following, monitoring, fault analysis and service improvement process and principles.	1	Grade 12 and 3- year National Diploma in IT. 5-years relevant experience of which 3-years should be on supervisory level	2	2	

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
5	**Senior Engineering Technician** Responsible for implementation of annual and Ad Hoc maintenance project/programs on all fixed infrastructure to ensure cost and technical effectiveness of all fixed infrastructure in the ports.	1	3 Year Diploma in civil engineering. Registered at a technical level with a professional institute. 5 Years experience in a civil and port maintenance environment. Fully SAP trained in fixed asset maintenance management.	2	2	
5	**Support Analyst: Business Applications** Support the Namport business and operations user base, applications and equipment with all calls logged by analysing fault and improvement requests and implementing feasible solutions.	1	3-Year national diploma in IT OR National Higher Certificate OR A+,N+ accreditation. 2 years relevant experience OR 3 years relevant experience OR 4 years relevant experience			
5	**Support Analyst: Legislative Applications** Support the safety legislative user base, applications and equipment with all calls logged by analysing fault and improvement requests and implementing solutions as well as to support telecommunications infrastructure such as video conference, PABX and telephone systems.	1	Grade 12 or equivalent, 3-Year national diploma in IT. 5 years relevant experience of which 3 years should be on supervisory level			
5	**Support Analyst: Container Terminal** Support the container terminal operations user base, applications and mobile equipment with all calls logged by analysing fault and improvement request and then implementing the correct solution.	2	3-Year national diploma in IT OR National Higher Certificate plus 3 years relevant experience OR A+,N+ accreditation plus 4 years relevant experience. 2 years relevant experience		2	

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
5	**Head: Business Systems** Provide and support business systems, which effectively support the business processes through continuous process improvement principles.	1	Grade 12 and 3- Year National Diploma in IT. 5-years relevant experience of which 3-years should be on supervisory level	2	2	
5	**Chief Draughtsman** Manage the drawing office to serve drawing office needs. Benchmark best engineering practices. Provide specialist information and advisory services to management, employees and external clients on all port related projects, services specifications and national building regulations.	1	3 Year Diploma in Civil Engineering. 5 Years in a Civil Drawing Office environment of which at least three years must be in a port related Drawing Office	2	2	
5	**Draughtsman** Executes drawing functions on CAD system. Compilation of CAD drawings to serve all drawing needs. Benchmark best engineering practices. Provide specialist information and advisory services to management, employees and external clients on all port related projects, services specifications and national building regulations.	1	3 Year Diploma in Civil Engineering. 5 Years practical experience in Civil Drawing Office	2	2	
5	**Contracts Administrator** Coordinate, liaise and synchronize Engineering tender and contract activities, monitor engineering purchase orders, perform contract administrative functions and arrange travel requirements for staff.	1	Diploma in Contract administration or contract law. 5 year experience in contract administration. Sound knowledge of contract management & contract law.	2	2	

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
4	**Survey Attendant** Assist Drawing Office staff with general duties i.e. survey, measuring and archive work. Responsible for refuelling and cleaning of vehicles. Collecting and delivery of Namport's mail.	1	Grade 12 or equivalent. 3 years relevant experience			
4	**Hydrographic Surveyor** Provides Hydrographic & Land Surveying Services	1	Grade 12. Category B certification in hydrography. 1 year field understudy to Hydrographer & 1 year to a land surveyor. 5 years relevant experience	2	2	
4	**Civil Maintenance Coordinator** Coordinates, supervises and trains SME contractor's	1	Diploma in Building Science or qualified artisan in building related trade. 5 years supervisory experience in the trade	2	2	
4	**Systems Administrator – Server OPS** Administer server environments (hardware, operating software and applications) by monitoring, maintaining and improving server performance, stability and availability.	1	3- Year National Diploma in IT OR Specializing in Server Operations (MCSE). 5- years relevant experience of which 3- years should be on supervisory level			
4	**Network / Communication Administrator** Administer all network communications by monitoring, maintaining and improving network facilities and peripherals.	1	Grade 12 or equivalent, 3-year relevant Diploma in IT or Network Communications. 5 years relevant experience of which 3 years should be on supervisory level			
4	**Equipment Support Technician (MS)** Routine services of desktop and desktop support to end-users on hardware and operating systems level.	1	Grade 12 or equivalent. 2 years relevant experience, IT qualification similar to PC engineering and Computer A+ & N+			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
3	**IT Administrative Assistant** Responsible for day-to-day administrative support to the IT division, help desk administration, change request administration, reporting and filling.	1	Grade 12 or equivalent. 2 years relevant experience			

Indicative list of key competency requirements

Administer first aid
Apply safe work practices in the workplace
Apply sustainable environmental management practices as a workplace supervisor
Communicate information within the workplace
Complete an incident report
Conduct an assessment of risk in the workplace
Demonstrate knowledge of, and carry out, hazard management procedures within a port environment
Demonstrate and apply knowledge of safe manual handling practices
Demonstrate knowledge of managing response to an emergency in a port environment
Demonstrate knowledge of workplace health and safety requirements
Demonstrate knowledge of, and carry out, hazard management procedures within a port environment
Demonstrate knowledge of HIV and AIDS in the workplace
Demonstrate knowledge of workplace communications requirements
Demonstrate knowledge of hazards and hazard reporting, and use personal protective equipment in a port environment
Drive a motor vehicle within a port environment
Establish water depths
Explain safe work practices for working at heights
Fill in a form
Give oral instructions in the workplace
Identify and manage the effects of shift work
Improve the customer relationship
Investigate, report, and follow through on incident and accident events within a port environment
Make initial investigations into incidents in ports
Maintain security in ports
Maintain wharf-side personal safety
Maintain clear channels and water areas
Maintain environmental good practice within ports
Manage port users in an emergency
Monitor and solve customer service problems
Monitor procedures to control risk to health and safety
Organise the delivery of reliable customer service
Promote and maintain security in ports
Promote health and safety in ports
Provide customer service in given situations
Provide first aid
Provide leadership for your team
Provide learning opportunities for colleagues
Respond to on-shore-based emergency situations
Respond to an incident within a port environment
Solve problems using complex calculations with numbers expressed in different forms
Suppress fire with hand extinguishers and fixed hose reels in the workplace
Survive in the water
Take action to reduce risk to health and safety within a port environment
Undertake safety inspections
Work safely near water
Work safely at heights
Work with others to improve customer service
Work in a team

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Ports and Harbours

Occupational map

Operations

Marine

Sector:	Ports and Harbours
Sub-sector:	Operations
Field:	Marine
Overview:	Ports and Harbours are a key commercial component in terms of developing the on-going and future competitiveness of the Namibian economy. Namport, since 1994 operating as the National Ports Authority in Namibia, currently operates as the centre of Namibia's ports and harbours sector, and manages both the Port of Walvis Bay and the Port of Lüderitz in Namibia. Namport's key roles are to: • Manage the port facilities to cater for current trade needs • Develop the ports for future demands • Contribute to the competitiveness of the SADC region's trade through the efficient, reliable and cost-effective supply of port services • Facilitate economic growth in Namibia by enabling regional development and cross-border trade • Prmote the Ports of Walvis Bay and Lüderitz as preferred routes for sea-borne trade between SADC, Europe and the Americas • As the founding architects of the Walvis Bay Corridor Group, assist with developing cross-border trade • Minimize the impact of port operations on the natural environment by applying International Organisation for Standardisation ISO 14001 (*source: Namibian Ports Authority Annual Report, 2009)*. Key departments relating to maritime activities: • Marine (port operations including marine pilots, port control, and tug operations) • Buk & Breakbulk (cargo such as fuel, fish, sulphur, and general cargo) • Enineering (port engineering including growth, statutory, and maintenance projects) • Container Terminal (containerised cargo) • Syncrolift (a dry dock facility) • Tecnical (technical services supporting the port).

Employment	Out of a total number of 763 staff members, Namport employed 106 people in its Marine department in 2011.
Industry Priorities	• Need more expertise "depth" – not enough people with necessary expertise in many positions. • **Pilot training** needed. Need necessary sea time to qualify – need to resolve to effectively achieve Namibianisation – currently foreigners fill these positions. • **Marine engineering** training needed. • **Port Controllers** need further training.

Skills gaps by occupation and level

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
6+	**Port Captain**	1	Class 1 Master Mariner certificate of competence according to the STCW convention of 95. 10 years relevant experience of 3 years must be on management level	2	1	
6	**Chief Marine Engineering Officer** To operate and maintain the engine rooms and the engineering equipment of all Namport floating craft.	2	Certificate of competence issued by state signatory to and recognized as a STCW 95 state as a Chief Engineering Officer under 3000kw in terms of Regulation 111/3 of the convention or superior STCW certificate (Class 3) Code 08 Drivers License plus at least. 3 years approved seagoing experience of which not less than 12 months shall have been served as a Engineering Officer in a position of responsibility as per STCW 95convention	4	1	
5	**Senior Marine Pilot** Provides pilotage assistance to ships on approaches and within port limits of Walvis Bay/Luderitz ports. Carry out marine duties as stipulated in the Namibian Ports Authority Act 1994 (Act 2 of 1994) as amended from time to time, together with applicable regulations thereto, including the Port Regulations and other duties which may be normally associated with the office of a Port Captain.	1	Class 1 Mater Mariner certificate of competence according to the STCW convention of 95	2	2	

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
5	**Marine Engineering Officer** Operates and maintains all marine engineering and electrical systems on marine engineering assets.	3	Class 4	6	4	
5	**Tug Master** To command and operate a harbour tug within port limits and internationally, providing assistance to pilots in the docking and undocking of vessels as well as moving ships without engines in port limits and performing other marine related duties required of a harbour tug.	2	Class 5 Deck Officer Certificate of Competence and more senior.	4	4	
5	**Coxswain** To command, operate and maintain a harbour tug.	3	Class 6 Deck Office. 2 years relevant experience.	4	2	
5	**Marine Manager** Manages the marine engineering services of the marine division.	1	Class 1 Mater Mariner certificate of competence according to the STCW convention of 95	2	1	
4	**Tug Master (Restricted)** Commands and operates a harbour tug within port limits.	5	Class 6 Deck Officer Certificate of Competency. Three years relevant experience.	7	3	
4	**Marine Administrator** To provide administrative/secretarial services to marine services division.	1	Grade 12, National certificate in Secretarial/Office Administration. 1 year relevant experience			
4	**Motorman** Starts engine under supervision of engineer.	9	Class 5 (Motorman Grade 1 certificate of competence). 3 years experience in marine (engine room of more than 350 KW shaft power)	12	3	

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
4	**Marine Pilot** Provides pilotage assistance to ships on approaches and within port limits of Walvis Bay/Luderitz ports. Carries out marine duties as stipulated in the Namibian Ports Authority Act 1994 (Act 2 of 1994) as amended from time to time, together with applicable regulations thereto, including the Port Regulations and other duties which may be normally associated with the office of a Pilot.	5	Class 1 Mater Mariner certificate of competence according to the STCW convention of 95	7	3	4
4	**Senior Port Control Officer** Controls coordination and facilitation of marine related Port Operations. Collection and distribution of related Port Operations and emergency information between concerned parties.	1	Grade12 Certificate, Class 6 Deck Officer certificate of Competency. 3 years relevant experience as Port Control Officer	3	1	
4	**Port Control Officer** To perform port control/marine related duties as well as to collect and distribute related port operations and emergency information between concerned parties.	9	Grade 12 or equivalent, Class 6 or related traffic control experience. 2 years relevant maritime/marine experience	11	4	
4	**Marine Mechanic** To assist the Marine Engineers with the maintenance of all mechanical and electrical equipment on the floating craft.	1	Grade 10 with pass marks Science, Mathematics and English, National Vocational Certificate III or equivalent recognized qualification, Code BE Drivers License	2	1	

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
3	**Berthing Master** To provide mooring services to vessels, assist pilots and provide water services.	4	Grade 10 or equivalent with mathematics and science, relevant qualification as Deckhand /Greaser. 3 years relevant experience		4	2
3	**Marine Clerk** To assist the Marine Manager with administrative duties.	1	National certificate in Office Administration (1 year qualification). 3 years relevant experience			
2	**Dual Purpose Rating** To serve as a rating on both the deck and engine departments of a floating craft of Namport both in port, at sea performing all the duties required of a rating on a vessel.	34	Grade 10 or equivalent with mathematics and science, relevant qualification as Deckhand / Greaser	36	4	
2	**General Worker / Senior** Performs all general work/duties pertaining to Cargo Services.	35	Basic Literacy	45	5	

Indicative list of key competency requirements

Act as harbour pilot
Act as pilot launch crew within harbour limits
Act as pilot launch master within harbour limits
Administer first aid
Apply safe work practices in the workplace
Apply sustainable environmental management practices as a workplace supervisor
Assist with port mooring operations
Assist with planning vessel movements within the port area
Berth vessels
Clean and maintain port craft
Communicate information within the workplace
Complete an incident report
Conduct and assessment of risk in the workplace
Coordinate and control bridge operations
Coordinate and control vessel berthing operations
Contribute to the development of health and safety procedure
Contribute to the provision and control of moorings
Control and navigate port craft
Demonstrate knowledge of, and carry out, hazard management procedures within a port environment
Demonstrate knowledge of managing response to an emergency in a port environment
Demonstrate knowledge of workplace health and safety requirements
Demonstrate knowledge of workplace communications requirements
Demonstrate knowledge of hazards and hazard reporting, and use personal protective equipment in a port environment
Drive a motor vehicle within a port environment
Explain safe work practices for working at heights
Fuel vessels
Handle port craft
Improve the customer relationship
Investigate, report, and follow through on incident and accident events within a port environment
Make initial investigations into incidents in ports
Maintain security in ports
Maintain wharf-side personal safety
Maintain marine equipment
Manage port users in an emergency
Monitor and solve customer service problems
Monitor procedures to control risk to health and safety
Navigate and manoeuvre vessel used for port operations withinharbour limits
Position moorings and lay buoys
Provide leadership for your team
Provide learning opportunities for colleagues
Provide information to facilitate vessel movements
Respond to a pollution incident

Respond to emergency situations abroad vessels
Supervise wharfside port mooring operations
Suppress fire with hand extinguishers and fixed hose reelsin the workplace
Undertake basic maintenance and servicing of vessels
Undertake safety inspections
Work safely near water
Work safely at heights
Work safely in confined spaces
Work with others to improve customer service

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Ports and Harbours

Occupational map

Operations

Syncrolift

Sector:	Ports and Harbours
Sub-sector:	Operations
Field:	Syncrolift
Overview:	Ports and Harbours are a key commercial component in terms of developing the on-going and future competitiveness of the Namibian economy. Namport, since 1994 operating as the National Ports Authority in Namibia, currently operates as the centre of Namibia's ports and harbours sector, and manages both the Port of Walvis Bay and the Port of Lüderitz in Namibia. Namport's key roles are to: • Manage the port facilities to cater for current trade needs • Develop the ports for future demands • Contribute to the competitiveness of the SADC region's trade through the efficient, reliable and cost-effective supply of port services • Facilitate economic growth in Namibia by enabling regional development and cross-border trade • Prmote the Ports of Walvis Bay and Lüderitz as preferred routes for sea-borne trade between SADC, Europe and the Americas • As the founding architects of the Walvis Bay Corridor Group, assist with developing cross-border trade • Minimize the impact of port operations on the natural environment by applying International Organisation for Standardisation ISO 14001 (*source: Namibian Ports Authority Annual Report, 2009)*. Key departments relating to maritime activities: • Marine (port operations including marine pilots, port control, and tug operations) • Buk & Breakbulk (cargo such as fuel, fish, sulphur, and general cargo) • Enineering (port engineering including growth, statutory, and maintenance projects) • Container Terminal (containerised cargo) • Syncrolift (a dry dock facility) • Tecnical (technical services supporting the port).

Employment	Out of a total number of 763 staff members, Namport employed 33 people in its Syncrolift Dry Dock department in 2011.
Industry Priorities	• Need two **divers**, one for Walvis Bay and one for Luderitz. • Need training in literacy, maths and science, and computer skills. • Need syncrolift training exposure from outside the country, as this is the only facility in Namibia.

Skills gaps by occupation and level

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
6	**Manager: Syncrolift**	1	Engineering related qualification or equivalent. 6 years relevant experience of which 3 years in a mechanical background - 3 years on management level	2	1	
4	**Dock Master** Supervises Syncrolift operations (docking and undocking of vessels)	1	Grade 12 or equivalent with pass marks Science, Mathematics and English, NVC III or equivalent recognized qualification, Code BE Drivers License. 2 years relevant experience.	2	2	
4	**Syncrolift Administrator** Provides Administrative and secretarial services to the Syncrolift operations.	1	Grade 12 (or equivalent), NVC in Secretarial/Office Administration. One year relevant experience (Secretarial/Office Admin)			
4	**Docking Administrator** Record keeping of vessels docking and jetties. Recording of accounts on service sheets, Record keeping of statistical data and performing of general administrative duties.	1	Grade 12 or equivalent, 1-year relevant national certificate. 3 years relevant experience			
4	**Yard Inspector: Electricity** Administer revenue documentation, control and distribute electricity. Ensure good housekeeping of the entire Syncrolift yard.	1	Grade 10 or equivalent, Code BE Drivers license	2	2	
4	**Yard Inspector: Water** Administer revenue documentation, control and distribute water. Ensure good housekeeping of the entire Syncrolift yard.	1	Grade 10 or equivalent, Code BE Drivers license	2	2	

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
3	**Assistant Dock Master (Maintenance)** Assists with the Syncrolift operations (docking and undocking of vessels)	1	Grade 10 or equivalent with pass marks Science, Mathematics and English, National Vocational Certificate III or equivalent recognized qualification, Code BE Drivers License. 2 years relevant experience	2	2	
3	**Assistant Dock Master (Operations)** Assists with the Syncrolift operations (docking and undocking of vessels)	1	Grade 10 or equivalent with pass marks Science, Mathematics and English, National Vocational Certificate III or equivalent recognized qualification, Code BE Drivers License. 2 years relevant experience.	2	2	
3	**Store man** Responsible for stock control and administration.	1	Grade 10 or equivalent Code BE Driver's license. One year relevant experience			
3	**Squad Supervisor** To lead the syncrolift docking team during preparation, docking and undocking. Assist with moving vessels from platform to bays and back.	1	Grade 10, or equivalent Code BE Driver's license. One year relevant experience	2	2	
2	**Trade Hand** To execute/perform minor maintenance duties.	4	Grade 10, Code BE Driver's license. 1 year relevant experience.			
2	**Process Worker** Executes general maintenance and related operational duties.	1	Grade 10 or equivalent	2	2	
2	**General Worker / Senior** Performs all general work/duties pertaining to Cargo Services.	16	Basic Literacy		8	

Indicative list of key competency requirements

Administer first aid
Apply safe work practices in the workplace
Apply sustainable environmental management practices as a workplace supervisor
Communicate information within the workplace
Complete an incident report
Conduct an assessment of risk in the workplace
Demonstrate knowledge of, and carry out, hazard management procedures within a port environment
Demonstrate and apply knowledge of safe manual handling practices
Demonstrate knowledge of managing response to an emergency in a port environment
Demonstrate knowledge of workplace health and safety requirements
Demonstrate knowledge of, and carry out, hazard management procedures within a port environment
Demonstrate knowledge of HIV and AIDS in the workplace
Demonstrate knowledge of workplace communications requirements
Demonstrate knowledge of hazards and hazard reporting, and use personal protective equipment in a port environment
Drive a motor vehicle within a port environment
Explain safe work practices for working at heights
Fill in a form
Give oral instructions in the workplace
Identify and manage the effects of shift work
Improve the customer relationship
Investigate, report, and follow through on incident and accident events within a port environment
Make initial investigations into incidents in ports
Maintain security in ports
Maintain wharf-side personal safety
Maintain environmental good practice within ports
Manage port users in an emergency
Monitor and solve customer service problems
Monitor procedures to control risk to health and safety
Organise the delivery of reliable customer service
Promote and maintain security in ports
Promote health and safety in ports
Provide customer service in given situations
Provide first aid
Provide leadership for your team
Provide learning opportunities for colleagues
Respond to on-shore-based emergency situations
Respond to an incident within a port environment
Suppress fire with hand extinguishers and fixed hose reels in the workplace
Survive in the water
Take action to reduce risk to health and safety within a port environment
Undertake safety inspections
Work safely near water
Work safely at heights
Work with others to improve customer service
Work in a team

Ports and Harbours

Occupational map

Operations

Technical Services

Sector:	Ports and Harbours
Sub-sector:	Operations
Field:	Technical Services
Overview:	Ports and Harbours are a key commercial component in terms of developing the on-going and future competitiveness of the Namibian economy. Namport, since 1994 operating as the National Ports Authority in Namibia, currently operates as the centre of Namibia's ports and harbours sector, and manages both the Port of Walvis Bay and the Port of Lüderitz in Namibia. Namport's key roles are to: • Manage the port facilities to cater for current trade needs • Develop the ports for future demands • Contribute to the competitiveness of the SADC region's trade through the efficient, reliable and cost-effective supply of port services • Facilitate economic growth in Namibia by enabling regional development and cross-border trade • Prmote the Ports of Walvis Bay and Lüderitz as preferred routes for sea-borne trade between SADC, Europe and the Americas • As the founding architects of the Walvis Bay Corridor Group, assist with developing cross-border trade • Minimize the impact of port operations on the natural environment by applying International Organisation for Standardisation ISO 14001 (*source: Namibian Ports Authority Annual Report, 2009)*. Key departments relating to maritime activities: • Marine (port operations including marine pilots, port control, and tug operations) • Buk & Breakbulk (cargo such as fuel, fish, sulphur, and general cargo) • Enineering (port engineering including growth, statutory, and maintenance projects) • Container Terminal (containerised cargo) • Syncrolift (a dry dock facility) • Tecnical (technical services supporting the port).

Employment	Out of a total number of 763 staff members, Namport employed 102 people in its Technical Services department in 2011.
Industry Priorities	• Need basic literacy, maths and science, as well as computer skills.

Skills gaps by occupation and level

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
6	**Manager: Technical Services**	1	Engineering Degree or Diploma. 5 years experience - 3 years on management level	2		
5	**Technical Superintendent (Luderitz)**	1	Grade 12/N3, NVC III or equivalent. 5 years relevant experience - 3 years on a supervisory level		1	
5	**Electrical Superintendent**	1	Grade 12/N3, NVC III or equivalent. 5 years relevant experience - 3 years on a supervisory level	2	1	
5	**Mechanical Superintendent**	1	Grade 12/N3, NVC III or equivalent. 5 years relevant experience - 3 years on a supervisory level	2	1	
5	**HR Officer**	1	National Diploma in Human Resources Management or related field. 2 years experience in a centralized HR system with more than one functional area			
4	**Planning Coordinator**	1	Grade 12 or N3, relevant trade diploma, 3 years exposure to maintenance planning/computer applications (SAP)	2	1	
4	**MHC Coordinator**	1				
4	**MHA Supervisor**	1				
4	**Boiler Shop Supervisor**	1	Grade 10 or equivalent with pass marks Science, Mathematics and English, National Vocational Certificate III or equivalent recognized qualification, Code BE Drivers License. 5 years relevant experience			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
4	**Fitting Shop Supervisor**	1	Grade 10 or equivalent with pass marks Science, Mathematics and English, NVC III or equivalent recognized qualification, Code BE Drivers License. 5 years relevant experience	2		
4	**Lighthouse Supervisor**	1	Grade 10 or equivalent with pass marks Science, Mathematics and English, NVC III or equivalent recognized qualification, Code BE Drivers License. 5 years relevant experience	2		
4	**Telecom Supervisor**	1	Grade 10 or equivalent with pass marks Science, Mathematics and English, NVC III or equivalent recognized qualification, Code BE Drivers License. 5 years relevant experience			
4	**Electrician**	5	Grade 10 or equivalent with pass marks Science, Mathematics and English, NVC III or equivalent recognized qualification, Code BE Drivers License			
4	**Diesel Mechanic**	4	Grade 10 or equivalent with pass marks Science, Mathematics and English, NVC III or equivalent recognized qualification, Code BE Drivers License			
4	**Carpenter**	1	Grade 10 or equivalent with pass marks Science, Mathematics and English, NVC III or equivalent recognized qualification, Code BE Drivers License			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
4	**Fitter & Turner**	2	Grade 10 or equivalent with pass marks Science, Mathematics and English, National Vocational Certificate III or equivalent recognized qualification, Code BE Drivers License			
4	**Boilermaker**	3	Grade 10 or equivalent with pass marks Science, Mathematics and English, National Vocational Certificate III or equivalent recognized qualification, Code BE Drivers License			
4	**Welder**	1	Grade 10 or equivalent with pass marks Science, Mathematics and English, National Vocational Certificate III or equivalent recognized qualification, Code BE Drivers License	2	1	
4	**SHREQ Officer**	1	Diploma in public/occupational health and safety, certificate in environmental control, SAMTRAC certificate/training in pollution combating, IT, IS. 2 years experience in safety and 1 year experience in Occupational Health or Environment.			
3	**Team Leader: Painting**	1	Grade 10, Code BE Driver's license. One year relevant experience			
3	**Team Leader: Grit Blasting**	2	Grade 10, Code BE Driver's license. One year relevant experience			
3	**Storeman**	1	Grade 10 or equivalent, BE Drivers license. One year relevant experience			

NQF Level	OCCUPATIONAL TITLE / Description	Indicative number of employees	Industry entry qualification(s) requirement(s)?	Indicative skills gaps (No. of people)		
				Current	5 years	10 years
2	**Service Driver**	5	Grade 10 or equivalent, code 11 driver's license, Two years relevant experience.			
2	**Process Worker**	5	Grade 10 or equivalent			
2	**General Worker / Senior**	33	Basic Literacy			

Indicative list of key competency requirements

Administer first aid
Apply safe work practices in the workplace
Apply sustainable environmental management practices as a workplace supervisor
Clean cargo handling machinery, equipment, and wharf surface, and clean up non-hazardous spillages
Coordinate and control vessel berthing operations
Communicate information within the workplace
Complete an incident report
Conduct an assessment of risk in the workplace
Demonstrate knowledge of, and carry out, hazard management procedures within a port environment
Demonstrate and apply knowledge of safe manual handling practices
Demonstrate knowledge of managing response to an emergency in a port environment
Demonstrate knowledge of workplace health and safety requirements
Demonstrate knowledge of, and carry out, hazard management procedures within a port environment
Demonstrate knowledge of HIV and AIDS in the workplace
Demonstrate knowledge of workplace communications requirements
Demonstrate knowledge of hazards and hazard reporting, and use personal protective equipment in a port environment
Demonstrate knowledge of, and carry out, hazard management procedures within a port environment
Demonstrate knowledge and skills for driving on a road for endorsement T (tracks)
Demonstrate knowledge and skills for driving on a road for endorsement F (forklifts)
Describe hazards and their control for bulk dry cargo loading, unloading, and trimming
Drive a motor vehicle within a port environment
Explain safe work practices for working at heights
Fill in a form
Give oral instructions in the workplace
Identify and manage the effects of shift work
Improve the customer relationship
Investigate, report, and follow through on incident and accident events within a port environment
Make initial investigations into incidents in ports
Maintain security in ports
Maintain wharf-side personal safety
Maintain environmental good practice within ports
Manage port users in an emergency
Monitor and solve customer service problems
Monitor procedures to control risk to health and safety
Operate a butting machine for port log loading operations
Operate a powered industrial lift truck (PILT) fitted with attachments on a worksite
Operate a powered industrial lift truck fitted with forks (forklift)
Organise the delivery of reliable customer service
Plan and coordinate maintenance of port plant and equipment
Position moorings and lay buoys
Promote and maintain security in ports
Promote health and safety in ports
Provide customer service in given situations
Provide first aid
Provide leadership for your team
Provide learning opportunities for colleagues
Respond to on-shore-based emergency situations

Respond to an incident within a port environment
Suppress fire with hand extinguishers and fixed hose reels in the workplace
Survive in the water
Take action to reduce risk to health and safety within a port environment
Undertake safety inspections
Work safely near water
Work safely at heights
Work with others to improve customer service
Work in a team

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Regulatory Authorities

Occupational map

Ministry of Fisheries and Marine Resources

Operations

Sector:	Regulatory Authorities
Line Ministry:	Ministry of Fisheries and Marine Resources
Directorate:	Operations
Overview:	The fisheries sector is one of the highest contributors to the Namibian economy, and second only to the mining sector in terms of exports. Management of commercial fisheries is based on a system by which rights are granted, total allowable catch are set based on research results and quotas are issued to rights holders. The Ministry of Fisheries and Marine Resources has the mandate to sustainably manage the living aquatic resources and promote the aquaculture sector. The overall objectives of the Ministry are to: • Promote and regulate the responsible and sustainable utilisation of living marine and freshwater resources and aquaculture within the context of environmental sustainability. • Create a conducive environment in which the fishing and fish processing industries can prosper and derive optimal income from marine resources. • Further Namibia's interests within the international fishing sector. • Provide professional, responsive and customer-focused services. • Deliver services efficiently and effectively by providing best value for money. • Continuously invest in human resource development so as to enhance Namibia's capacity to manage fisheries and marine resources. Develop and ensure participation of Namibians in domestic fishing and fish processing, and for them to play an effective role in regional and international fisheries affairs. The Directorate of Operations, concerned with monitoring, control and surveillance has the following responsibilities: • Regulation of fishing activities within the Namibian EEZ. • Monitoring, control and surveillance through the operation of fisheries patrol vessels, cars for coastal inspection and fisheries patrol aircraft. • Deployment of Inspectors at processing plants, harbour and midwater. • Fisheries legislation enforcement.

Employment	Current numbers of people employed are not available
Training Priorities	A diverse need for further training has been identified for the following positions: • **Chief Control Fisheries** • **Control Fisheries Inspector** • **Chief Fisheries Inspector** • **Senior Fisheries Inspector** • **Clerk** • **Drivers** • **Store Clerk** • **Switchboard Operator** • **Cleaner** • **Radio Attendant** • **Clerk Assistant**

Skills gaps by position and level

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
Division: Monitoring, Control, and Surveillance					
N/A	Deputy Director 4A (M)		N/A*		
N/A	Clerical Assistant 1C L2		N/A		
N/A	Drivers 1B L3		N/A		
Division: Inspectorate					
N/A	Chief Control Fisheries Inspector 3B L1	Managerial courses on Planning and Management: Human, Financial and Natural Resources on Sustainable Assessment and Development, Conflict and Stress Management, International Law of the Sea “Maritime”, Management Courses for “Mid Level Managers”, Flag State Measures to Combat IUU Fishing, Financial and Business Budgeting Courses, Project Assessment Management, Disciplinary Procedures, Advanced Seminar/Workshop on Statistical Documents of Regional Fisheries Organisations “RFMO”. Workshop on Why Fish Piracy Persists the Economics of Illegal, Unreported and Unregulated Fishing.	N/A		
Division: Inspectorate – Section Luderitz					
N/A	Control Fisheries Inspector 3A L1	Management courses for managers, Enhance computer training (all levels), Flag & Port State Measures to combat IUU Fishing, Business/Budgeting courses, Conflict & Stress management, Project Management, Disciplinary Procedures.	N/A		
N/A	Chief Fisheries Inspector SP2 L1	Supervisory courses, Conflict & Stress management, computer courses, Law enforcement & crime Investigation courses, Flag & Port State Measures to combat IUU Fishing, Archive/Record keeping courses, Inter – personal Relations courses, Basic Safety courses.	N/A		

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
N/A	Senior Fisheries Inspector 2C L1	Law enforcement & crime Investigation courses, computer courses (all levels), Conflict & Stress management, Inter – personal Relations courses, basic Safety courses.	N/A		
N/A	Fisheries Inspector 2B L1		N/A		
N/A	Chief Clerk 2C L2		N/A		
N/A	Clerk 2A L1	Customer service training, Advance computer training (all levels), Conflict & Stress management, Revenue Collection, Statistics training and Data Management, Archive/Record keeping courses, personnel management courses, Minutes taking and Report writing.	N/A		
N/A	Drivers 1B L3	Transport management courses, Enhance driving skills course.	N/A		
N/A	Labourer 1A L1		N/A		
N/A	Clerk Assistant 1C L2		N/A		
N/A	Statistical Clerk 2A L1		N/A		
N/A	Store Clerk	Stores management courses, Archive/ Record keeping courses.	N/A		
N/A	Switchboard Operator 1B L1	Customer service training courses, Switchboard training course.	N/A		
N/A	Cleaner 1A L1	Effective cleaning training courses	N/A		
Division: Inspectorate – Section Walvis Bay					
N/A	Control Fisheries Inspector 3A L1	Management courses for managers, Enhance computer training (all levels), Flag & Port State Measures to combat IUU Fishing, Business/Budgeting courses, Conflict & Stress management, Project Management, Disciplinary Procedures.	N/A		

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
N/A	Chief Fisheries Inspector SP2 L1	Supervisory courses, Conflict & Stress management, computer courses, Law enforcement & crime Investigation courses, Flag & Port State Measures to combat IUU Fishing, Archive/Record keeping courses, Inter – personal Relations courses, Basic Safety courses.	N/A		
N/A	Senior Fisheries Inspector 2C L1	Law enforcement & crime Investigation courses, computer courses (all levels), Conflict & Stress management, Inter – personal Relations courses, basic Safety courses.	N/A		
N/A	Fisheries Inspector 2B L1		N/A		
N/A	Chief Clerk 2C L2		N/A		
N/A	Clerk 2A L1	Customer service training, Advance computer training (all levels), Conflict & Stress management, Revenue Collection, Statistics training and Data Management, Archive/Record keeping courses, personnel management courses, Minutes taking and Report writing.	N/A		
N/A	Drivers 1B L3		N/A		
N/A	Clerk Assistant 1C L2		N/A		
N/A	Switchboard Operator 1B L1	Customer service training courses, Switchboard training course.	N/A		
N/A	Cleaner 1A L1	Effective cleaning training courses	N/A		
Division: Surveillance & Operation					
N/A	Control Fisheries Inspector 3A L1	Management Development Program (MDP), Enhanced computer training, Flag & Port State Measures to combat IUU Fishing, Business/Budgeting courses, Conflict & Stress Management, Minute Taking Skills Course, Disciplinary Procedures, Report Writing Skills Course, Maritime Management, Law Enforcement and Investigations, Project Management, Vessel Monitoring System Operations	N/A		

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
N/A	Chief Fisheries Inspector SP2 L1	Supervisory courses, Conflict & Stress management, computer courses (all levels), Law enforcement & crime Investigation courses, Flag & Port State Measures to combat IUU Fishing, Archive/Record keeping courses, Inter – personal Relations courses. Report Writing Skills, Basic Safety Course, Disciplinary Procedures	N/A		
N/A	Senior Fisheries Inspector 2C L1	Law enforcement & crime Investigation courses, computer courses (all levels), Conflict & Stress management, Inter – personal Relations courses, Report Writing, Basic Safety Course	N/A		
N/A	Fisheries Inspector 2B L1		N/A		
N/A	Chief Radio Attendant 2A L3		N/A		
N/A	Radio Attendant 2A L1	Refresher course on Radiotelephony courses, Communication Skills Course, Customer Care, Conflict and Stress Management, Minute Taking Course	N/A		
N/A	Clerk 2A L1 (Henties Bay)	Customer Service training, Advance computer training (all levels), Conflict & Stress management, Revenue Collection, Statistics Training and Data Management, Archive/Record keeping courses, Minutes taking and Report writing, Induction Training on Public Service Act and Disciplinary Procedures	N/A		
N/A	Clerk Assistant 1C L2 (Henties Bay)	Customer Service training, Advance computer training (all levels), Conflict & Stress management, Revenue Collection, Statistics Training and Data Management, Archive/Record keeping courses, Minutes taking and Report writing, Induction Training on Public Service Act and Disciplinary Procedures	N/A		

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
Division: Inland Fisheries Inspectorate					
N/A	Control Fisheries Inspector 3A L1	Management courses for emerging managers (MDP), Computer courses, Leadership and change management, Managerial skills, Effective presentation skills, Writing recommendations, Customer care, Minute taking, Report writing, Conflict and Stress Management, Law enforcement and Investigations, Project management for managers, Disciplinary courses, Inland fisheries Law enforcement, Scene of crime investigation.	N/A		
N/A	Chief Fisheries Inspector SP2 L1	Supervisors course, Customer care, Basic computer courses, Law enforcement and management, Basic investigation course, Minute taking, Report writing, Transport and stores management, Record keeping, Safety course, Inland fisheries Law enforcement, Scene of crime investigation	N/A		
N/A	Senior Fisheries Inspector 2C L1	Supervisors course, Customer care, Basic computer courses, Law enforcement and management, Basic investigation course, Minute taking, Report writing, Inland fisheries Law enforcement, Transport and stores management, Record keeping, Safety course, Scene of crime investigation.	N/A		
N/A	Fisheries Inspector 2B L1	Basic investigation course, customer care, Basic computer courses, Law enforcement and management, Minute taking, Report writing, Transport and stores management, Record keeping, Safety course, Inland fisheries Law enforcement, Scene of crime investigation.	N/A		

*N/A - Data not available

Indicative list of key competency requirements

Key competency requirements for each position are indicated in the document *“Personnel Administration Measures”* (PAM) from the Office of the Prime Minister. It should be noted that access to those documents are restricted and for internal use only.

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Regulatory Authorities

Occupational map

Ministry of Fisheries and Marine Resources

Aquaculture

Sector:	Regulatory Authorities
Line Ministry:	Ministry of Fisheries and Marine Resources
Directorate:	Aquaculture
Overview:	The fisheries sector is one of the highest contributors to the Namibian economy, and second only to the mining sector in terms of exports. Management of commercial fisheries is based on a system by which rights are granted, total allowable catch are set based on research results and quotas are issued to rights holders. The Ministry of Fisheries and Marine Resources has the mandate to sustainably manage the living aquatic resources and promote the aquaculture sector. The overall objectives of the Ministry are to: • Promote and regulate the responsible and sustainable utilisation of living marine and freshwater resources and aquaculture within the context of environmental sustainability. • Create a conducive environment in which the fishing and fish processing industries can prosper and derive optimal income from marine resources. • Further Namibia's interests within the international fishing sector. • Provide professional, responsive and customer-focused services. • Deliver services efficiently and effectively by providing best value for money. • Continuously invest in human resource development so as to enhance Namibia's capacity to manage fisheries and marine resources. Develop and ensure participation of Namibians in domestic fishing and fish processing, and for them to play an effective role in regional and international fisheries affairs. The Directorate of Aquaculture has the following responsibilities: • Ensure the responsible and sustainable development of aquaculture, to achieve socio- economic benefits and environmental sustainability. • Facilitate an efficient, coordinated administrative and institutional framework for aquaculture. • Ensure that the genetic diversity and integrity of the aquatic ecosystem is maintained. • Promote responsible aquaculture production practices.

	• Research on fresh water fish resources in the interior of Namibia and provides advice on the conservation and management of those resources.
Employment	Current numbers of people employed are not available
Training Priorities	A diverse need for further training has been identified for the following positions: • **Chief Fisheries Biologist 4A L1** • **Chief Fisheries Research Technical 3A L2** • **Chief Technical Assistant 2A L2** • **Clerk 1C L2** • **Clerical Assistant 1C L2** • **Clerical Assistant 1B L3** • **Deputy Director Gr: 4A (M)** • **Fisheries Biologist 3A L1** • **Fisheries Biologist 3B L1** • **Fisheries Biologist 4A L (P)** • **Fisheries Research Technician SP2** • **Fisheries Research Technician 2C L1** • **Fisheries Research Technician 3A L2** • **Fisheries Research** • **Handyman 1B L2** • **Principal Fisheries Biologist SP3** • **Senior Fisheries Biologist 3B L1** • **Technical Assistant 1C L3**

Skills gaps by position and level

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
Division: Research, Monitoring, Disease & Quality Control					
N/A	Deputy Director Gr: 4A (M)	Fisheries Policy & Planning Budgeting Marine culture technology	1	0	0
Division: (Swakopmund) NATMIRC					
N/A	Chief Fisheries Biologist 4A L1	Finfish, Shellfish and Crustaceans aquaculture Disease control, monitoring and budgeting	1	1	0
N/A	Fisheries Biologist 3B L1	Water management, monitoring and disease diagnosis, shellfish regulations, rules & regulations	1	1	1
N/A	Fisheries Biologist 3A L1	Laboratory analysis technology	2	2	2
N/A	Chief Fisheries Research Technical 3A L2	Water management, monitoring and sampling	1	1	1
N/A	Fisheries Research Technician 2C L1		3	2	1
N/A	Chief Technical Assistant 2A L2	Water monitoring, Diving	1	1	0
N/A	Technical Assistant 1C L3	Biological Sampling analysis, Diving Biological sampling, water monitoring	2	1	0
N/A	Clerk 1C L2	Administration	1	0	0

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
Division: (Luderitz)					
N/A	Principal Fisheries Biologist SP3	Water management, monitoring and Disease diagnosis, shellfish sanitation rules & regulations	1	1	0
N/A	Fisheries Research Technician SP2	Water monitoring, Diving	1	1	0
N/A	Fisheries Research Technician 2C L1		1	1	1
N/A	Technical Assistant 1C L3	Biological sampling, water monitoring	1	1	1
Division: Research, Training, Monitoring & Extension					
N/A	Fisheries Biologist 4A L (P)	Aquaculture technology, Research, Budgeting	0	0	1
N/A	Fisheries Biologist 3A L1	Aquaculture techniques, Extension services,	0	0	2
N/A	Fisheries Research Technician SP2	Extension services, aquaculture, water quality management, breeding techniques	0	0	2
N/A	Fisheries Research Technician 2C L1	Aquaculture skills on freshwater, Extension services, water and fish sampling	0	0	1
N/A	Clerical Assistant 1C L2	Administration	N/A		
N/A	Driver 1B L3		N/A		
N/A	Labourer 1B L1		0	0	1
N/A	Handyman 1B L3		N/A		

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
Division: Inland Aquaculture					
N/A	Fisheries Biologist 4A L1 (P)	Fisheries Policy management, budgeting, Nutrition, Administration, Aquaculture techniques and technology	1	1	0
Division: Onavivi Regional Office					
N/A	Senior Fisheries Biologist 3B L1	Aquaculture techniques and technology, nutrition, hatchery and nursery management	1	0	0
N/A	Fisheries Biologist 3A L1	Aquaculture techniques, research, Artificial seed production, hapas and cage systems	1	1	0
N/A	Fisheries Research Technician SP2	Hatchery technology	1	1	0
N/A	Fisheries Research Technician 2C L1	Physiology of Freshwater species, biological sampling, extension services,	3	1	0
N/A	Technical Assistant 1C L3	Physiological freshwater species	1	1	0
N/A	Clerical Assistant 1B L3	Administration	1	0	0
N/A	Handyman 1B L2	Electrical, plumbing and pipes installations	1	0	0
N/A	Labourer 1A L1		1	0	3
Division: Ongwediva Regional Office					
N/A	Principal Fisheries Biologist SP3	Aquaculture management, Research, hatchery management, breeding of freshwater species,	1	0	0
N/A	Fisheries Biologist 3A L1	Aquaculture techniques, research, Artificial seed production, has and cage systems	2	1	0
N/A	Chief Fisheries Research Technical 3A L2	Extension services techniques, aquaculture practises, rural development concept	1	0	0

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
N/A	Fisheries Research Technician SP2	Extension services, Hatchery technology, small scale farmers fish model	1	0	2
N/A	Fisheries Research Technician 2C L1	Extension services, Hatchery technology, small scale farmers fish model	2	1	2
N/A	Technical Assistant 1C L3	Extension services techniques	1	1	2
N/A	Clerical Assistant 1C L2	Administration	1	1	0
N/A	Handyman 1B L2		1	1	0
N/A	Labourer 1A L1		3	2	0
Division: Kamutjonga Research & Training Centre					
N/A	Deputy Director 4A (M)	Fisheries and Policy management Budgeting Farm management	2	1	0
Subdivision: Research & Training					
N/A	Fisheries Biologist 4A L1 (P)	Physiological Freshwater species, aquaculture techniques, hatchery and nursery management, Extension services, inland fisheries laws & regulations, Inland fisheries Research, Disease prevention	1	2	0
N/A	Fisheries Biologist 3B L1		2	1	0
N/A	Fisheries Biologist 3A L1	Water quality control, Disease diagnosis aspect, species identification, water and soil sampling	1	1	0
N/A	Fisheries Research Technician 2C L1	Breeding techniques, hapas & cage use in aquaculture	1	1	0
N/A	Technical Assistant 1C L3	Physiological freshwater species	2	1	0
N/A	Workhand 1B L1		N/A		
N/A	Labourer 1A L1		1	1	0

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
Section: Extension Service (KIFI)					
N/A	Fisheries Biologist 3B L1	Breeding techniques of freshwater species, research	1	1	0
N/A	Fisheries Biologist 3A L1	Extension services techniques, water and soil sampling	1	1	0
N/A	Fisheries Research	Water and soil sampling, biological sampling, laboratory use			
N/A	Technician 2C L1		1	1	0
N/A	Technical Assistant 1C L3		2	1	0
N/A	Workhand 1B L1		1	0	0
N/A	Labourer 1A L1		2	0	0
Subdivision: Rundu Regional Office					
N/A	Fisheries Biologist 4A L1 (P)	Fisheries management, budgeting, freshwater aquaculture techniques, extension services	1	1	0
N/A	Fisheries Biologist 3B L1	Freshwater aquaculture techniques, extension services, breeding techniques,	1	1	0
N/A	Fisheries Biologist 3A L1	Freshwater aquaculture techniques, extension services, breeding techniques.	1	1	0
N/A	Fisheries Research Technician 3A L2	Farmers management	1	0	0
N/A	Fisheries Research Technician 2C L1	Farm management	1	1	0
N/A	Technical Assistant 1C L3		1	0	0
N/A	Driver 1B L3		1	0	0
N/A	Clerical Assistant 1C L2		1	0	0

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
Subdivision: Katima Mulilo Regional Office					
N/A	Fisheries Biologist 4A L1 (P)	Budgeting, Trans boundary regulations, fisheries policy and planning, freshwater species, hatchery management, breeding techniques	1	0	0
N/A	Fisheries Biologist 3B L1	Freshwater aquaculture techniques	1	0	0
N/A	Fisheries Biologist 3A L1	Freshwater aquaculture techniques, extension services, breeding techniques.	0	0	2
N/A	Chief Fisheries Research Technical 3A L2	Farm management techniques,	1	0	0
N/A	Fisheries Research Technician SP2	Water and soil samplings, farm management, monitoring and control of rivers	1	0	0
N/A	Fisheries Research Technician 2C L1	Water and soil analysis, extension services	2	1	0
N/A	Technical Assistant 1C L3		2	0	1
N/A	Clerical Assistant 1C L2		1	1	0
N/A	Workhand 1B L1		1	0	0

Indicative list of key competency requirements

Key competency requirements for each position are indicated in the document *“Personnel Administration Measures”* (PAM) from the Office of the Prime Minister. It should be noted that access to those documents are restricted and for internal use only.

Regulatory Authorities

Occupational map

Ministry of Fisheries and Marine Resources

Fisheries Observer Agency

Sector:	Regulatory Authorities
Line Ministry:	Ministry of Fisheries and Marine Resources
Directorate:	Fisheries Observer Agency
Overview:	The fisheries sector is one of the highest contributors to the Namibian economy, and second only to the mining sector in terms of exports. Management of commercial fisheries is based on a system by which rights are granted, total allowable catch are set based on research results and quotas are issued to rights holders. The Ministry of Fisheries and Marine Resources has the mandate to sustainably manage the living aquatic resources and promote the aquaculture sector. The overall objectives of the Ministry are to: • Promote and regulate the responsible and sustainable utilization of living marine and freshwater resources and aquaculture within the context of environmental sustainability. • Create a conducive environment in which the fishing and fish processing industries can prosper and derive optimal income from marine resources. • Further Namibia's interests within the international fishing sector. • Provide professional, responsive and customer-focused services. • Deliver services efficiently and effectively by providing best value for money. • Continuously invest in human resource development so as to enhance Namibia's capacity to manage fisheries and marine resources. Develop and ensure participation of Namibians in domestic fishing and fish processing, and for them to play an effective role in regional and international fisheries affairs. The Fisheries Observer Agency (FOA) serves as the eyes and ears of the Ministry of Fisheries and Marine Resources. The Ministry relies upon it to observe the harvesting of Namibia's marine resources. The FOA provides an essential complement to the monitoring, control, surveillance and scientific activities. It provides impartial and accurate information on a timely basis. The functions of the FOA are set out under section 9 of the Marine Resources Act. These are to: (a) provide fisheries observers to perform the tasks enumerated in section 7(1) of the Act, (b) provide appropriate expertise and facilities to train fisheries observers, and (c) provide observers pursuant to an agreement

	managing marine resources outside Namibian waters, and which Namibia is a party. Regular dialogue between the Ministry and the FOA is achieved through the FOA Liaison Group, which serves as the principal mechanism for consultation on any area of mutual interest. The Group is already showing its worth in improving communications. The FOA observers are expected to monitor compliance by fishing vessels with fisheries laws, regulations and licence conditions. Reporting violations is a core function of the observers. Our compliance record varies widely between fleets, and between individual fishing companies. Our management measures are considered to be a model that has been highly praised internationally. These measures are there to protect the resource and, therefore, the viable future of the industry that it sustains. Our laws and regulations are not to be avoided or ignored. They are to be adhered to.
Employment	Current numbers of people employed are not available
Training Priorities	The long-term objective of the Agency is to have Scientific Observers that would be deployed internationally in terms of the conventions signed with other countries. One need to have a recognized degree in Marine Biology and higher to be regarded as such. The FOA does not have Scientific Observers currently and Therefore require training over the next 5 to 10 years: • **Fisheries Observer**

Skills gaps by position and level

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
N/A	**Fisheries Observer** Through observation the observer controls and monitors all fishing activities of vessel on which he/she is deployed in accordance with the provisions of the Fisheries and Marine Resources Act and regulations. The observer must record and report all violations to the Agency through appropriate channels. As well as monitoring fishing activities, the observer also collects biological and scientific data in order to compliment the Government's MCS (Monitor, Control and Surveillance) and scientific activities.	Trainee FO – Grade 0 (Induction Training NATMIRC, MFMR)	0	15	5
		FO – Grade 1 Commercial sampling course (NATMIRC)	0	10	5
		Snr. FO – Grade 2 Commercial sampling course (NATMIRC)	0	10	5
		Chief FO – Grade 2 + FIOC (Fisheries Inspector and Observer Course) NAMFI	0	10	
		International FO – Grade 2 + FIOC + International Conventions Training (Cape Fish, Cape Town)	0	10	5

Indicative list of key competency requirements

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Regulatory Authorities

Occupational map

Ministry of Trade and Industry

Namibia Standards Institution (NSI)

Sector:	Regulatory Authorities
Line Ministry:	Ministry of Trade and Industry
Directorate:	Namibia Standards Institution (NSI)
Overview:	The NSI has been established in terms of the Standards Act (Act No. 18 of 2005) as the national standards body of Namibia. The Institution is responsible for enhancing product quality, industrial efficiency and productivity in Namibia by: • Promoting the use of standards and quality assurance and control in industry, commerce and public sector • Providing conformity assessment services • Certification of systems, product and personnel systems • Inspecting and testing of products and materials • Metrology The Ministry has continued to work on improving the capacity of the Namibian Standards Institution so that it can effectively render the certification services that used to be provided by the South African Bureau of Standards (SABS). The Institution is carrying out inspection of fish and administers the compulsory standards specifications for chilled fish, canned fish, marine molluscs and crayfish, frozen fish and marine molluscs, frozen rock lobster, frozen shrimps, langoustines and crabs, smoked snoek as well as other regulations for other food products.
Employment	Current numbers of people employed are not available
Training Priorities	• **Inspectors**

Skills gaps by position and level

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
N/A	**Manager** To oversee, plan, and control operation.				
N/A	**Senior Inspector** Conduct inspections and supervise inspectors.				
N/A	**Inspector** Inspects factories, fishing vessels, and products in terms of meeting hazard analysis critical control point (HACCP) food safety requirements. Undertakes basic food safety audits, and inspects samples obtained by Samplers. This inspection is visual, involves smelling the product to ensure it isn't going off, also ensuring the product is not contaminated with chemicals, and that it is compliant with labelling requirements.	Additional training is required for inspectors to enhance their food inspection and sensory evaluation capacity within the food safety environment. This includes both onsite inspections at fish factories, as well as assessment of fish samples brought back to the laboratory. In NSI's experience, the best sensory evaluation training is currently available through Canada.			
N/A	**Sampler** Responsible for collecting fish samples from factories for bringing to the NSI lab for inspection.				

Indicative list of key competency requirements

Key competency requirements for each position are indicated in the document *“Personnel Administration Measures”* (PAM) from the Office of the Prime Minister. It should be noted that access to those documents are restricted and for internal use only.

Regulatory Authorities

Occupational map

Ministry of Works and Transport

Maritime Affairs

Sector:	Regulatory Authorities
Line Ministry:	Ministry of Works and Transport
Directorate:	Maritime Affairs
Overview:	The Department of transport is responsible for transport in the different modes, namely road, air and sea. Its mission is to ensure the provision of safe and efficient transport services, infrastructure and communication in the country in balance with demand in the different modes. The objective of the Directorates of Maritime Affairs is to ensure safety of life and property at sea prevents and combat pollution of the marine environment by ships and promote the maritime interest of Namibia. The Directorate is subdivided in the following divisions: • **Marine Pollution Search &Rescue** Control the Manning of Namibian Ships. Ensure the education and training of Namibian seafarers; investigate marine accidents, near accidents and incidents. Prevent and combat pollution of the sea by ships. • **Legal & International Maritime Affairs** Draft, review, promote and implement the maritime legislation. Assist in the development and execution of search and rescue plans. Advise the Government on national maritime policies and regulation. • **Surveying & Inspections** Survey, inspect and certify the Namibian Vessels to ensure their seaworthiness. Execute Port State Control. Control, register and issue certificate of Namibia seafarers. Register Namibian ships.
Employment	Current numbers of people employed are not available
Training Priorities	• Training to Class 1/2 Deck Officer or Marine Engineer with foreign seagoing experience for **ship surveyors** (3B L1 and 3A LA)

Skills gaps by position and level

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
Division: Administration					
N/A	Chief Control Officer 3A L2		N/A		
N/A	Control Officer SP2		N/A		
N/A	Chief Clerk 2B L3		N/A		
N/A	Clerk 1C L2		N/A		
N/A	Private Secretary 2B L1		N/A		
N/A	Clerical Assistant 1B L1		N/A		
Division: Surveys and Inspection					
N/A	Deputy Director 4A (M)		N/A		
N/A	Chief Ship Surveyor 3B L1	Training to Class 1/2 Deck Officer or Marine Engineer With foreign seagoing experience	1	2	1
N/A	Ship Surveyor 3A LA	Training to Class 1/2 Deck Officer or Marine Engineer With foreign seagoing experience	3	3	3
N/A	Control Officer SP2		N/A		
N/A	Chief Clerk 2B L3		N/A		
N/A	Clerk 1C L2		N/A		
Division: Legal and International Matters					
N/A	Deputy Director 4A (M)		N/A		
N/A	Chief Control Officer 3A L2		N/A		
N/A	Control Officer SP2		N/A		
N/A	Chief Clerk 2B L3		N/A		
N/A	Clerk 1C L2		N/A		

NQF Level	Position / Code	Training needs requirement	Indicative skills gaps (No. of people)		
			Current	5 years	10 years
Division: Marine Pollution Control and SAR					
N/A	Deputy Director 4A (M)		N/A		
N/A	Chief Control Officer 3A L2		N/A		
N/A	Control Officer SP2		N/A		
N/A	Chief Clerk 2B L3		N/A		
N/A	Clerk 1C L2		N/A		

Indicative list of key competency requirements (Ship Surveyor)

Knowledge of local and international maritime safety and environmental legislation, codes and standards
Understanding the survey process e.g. use of checklists
Verbal and written communication
Negotiation and conflict resolution
Report writing
Use of technology
PC skills and tools
Photography
Ethics - that is no conflict of interest, no fear or favour
Drawing / plan interpretation
Knowledge of engineering systems and structures
Knowledge of materials
General ship knowledge and vessel operations
Ability to identify defects or damage and assess the quality of repairs
Naval architecture, ship construction and stability
Participate in vessel design, construction, maintenance, and repair
Oversee emergency medical response drills and operations
Coach or mentor team members in appropriate circumstances
Motivate team members to achieve excellence

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Training Provider

Occupational map

Namibian Maritime and Fisheries Institute (NAMFI)

Navigation, Engineering, and Safety Departments

Sector:	Training Provider
Line Ministry:	Ministry of Fisheries and Marine Resources
Provider:	Namibian Maritime and Fisheries Institute (NAMFI)
Overview:	The Ministry of Fisheries and Marine Resources (MFMR) formally established NAMFI as a Trust in July 1996. The primary responsibility of NAMFI is to provide maritime and fisheries training in order to enable students to take up qualified positions within the maritime and fisheries industries in Namibia and elsewhere. Thus building capacity in the field of maritime and fisheries sectors in and around Namibia. The Namibian Maritime and Fisheries Institute (NAMFI) has three training departments: Navigation, Engineering and Safety. The training at NAMFI is in accordance with International Standards, for example, the International Maritime Organization (IMO). The Republic of Namibia has acceded to the International Convention on Standards of Training, Certification and Watch-keeping for Seafarers (STCW-78/95) convention as amended. The STCW 78/95 had entered into force for Namibia on 24 April 2005 in accordance with the provisions of article X1V of the Convention. The Directorate of Maritime Affairs (DMA) within the Ministry of Works and Transport is an IMO accredited authority. NAMFI is accredited by DMA and the training activities are in accordance with the STCW 78/95 convention as well the Namibian Merchant Shipping Act of 1951, particularly in the areas of education, training, and certification of Namibian seafarers.
Employment	N/A
Training programmes	Training courses for the following industry sectors (Entry requirements vary from Grade 10 to Grade 12, depending on the nature of the course) are currently being offered at NAMFI: • Marine Capture Fishing • Aquaculture (Freshwater culture) • Seafood Processing • Ports and Harbour (Engineering; Marine; Technical Services) • Generic (compulsory) Seafarer courses: First Aid; Fire Fighting; Survival Training

Skills gaps by position and level

Engineering and Navigation Departments					
Training course	**Qualification award**	**Course accredited**		**Intake p.a.**	**Output p.a.**
		YES	**NO**		
Sector: Marine Capture Fishing					
Skipper In command of the fishing vessel and responsible for its safe and efficient operation, aspects of health and safety, crew and vessel management.	Deck Officer Class 6 – Skipper II Deck Officer Class 5 – Skipper I ***NB: The training for skippers, mates and deckhands is not specific to a type of fishery.***	√		Deck Officer Class 5: Appr. 12 Deck Officer Class 6: Appr. 20	Appr. 85%
Mate Acts as chief watch commander of the vessel. Often tasked with the responsibility for ensuring that the fishing gear operates correctly and that the catch is stored properly.	Deck Officer Class 6 – Mate II Deck Officer Class 5 – Mate I ***NB: The training for skippers, mates and deckhands is not specific to a type of fishery.***	√		***NB: The theoretical training for Deck Officer Class 6 is one course. The Directorate of Maritime Affairs issues a certificate of competence (Mate II or Skipper II) based on practical sea going experience. The same applies to the Deck Officer Class 5 Level (Skipper I or Mate I)***	
Bosun Foreman of the vessel crew and expected to have a high level of seamanship skills. Responsible for smooth deck operations	Qualified/Efficient Deck Rating ***NB: This is the same course offered to deckhands.***	√		Appr. 10	90% +
Competent Deckhand Responsible for health and safety, preparing the deck and equipment for the catch, operating and repairing fishing gear and other equipment used for shooting, hauling, gutting and storing fish.	Qualified/Efficient Deck Rating ***NB: Ratings are trained to be able to serve on different kinds of vessels.***	√		Appr. 10	90% +

Training course	Qualification award	Course accredited		Intake p.a.	Output p.a.
		YES	NO		
Fishing Deckhand Shoot (cast) and haul in the nets, lines or pots on fishing vessels. They may process fish.	Qualified/Efficient Deck Rating ***NB: Ratings are trained to be able to serve on different kinds of vessels.***	√		Appr. 10	90% +
Engineer (Class 4) Undertakes engineering duties such as maintaining, servicing and repairing, testing and diagnosing faults with all mechanical and electrical equipment aboard the vessel according to his/her level of qualification (Class 4, 5, or 6).	Engineer (Class4)	√		N/A	
Engineer (Class 5) Undertakes engineering duties such as maintaining, servicing and repairing, testing and diagnosing faults with all mechanical and electrical equipment aboard the vessel according to his/her level of qualification (Class 4, 5, or 6).	Engineer (Class 5)	√		N/A	
Engineer (Class 6) Undertakes engineering duties such as maintaining, servicing and repairing, testing and diagnosing faults with all mechanical and electrical equipment aboard the vessel according to his/her level of qualification (Class 4, 5, or 6).	Engineer (Class 6)	√		N/A	
Greaser Supports the engineer as directed. Cleans the machinery plant, check systems and assists with engineering tasks.	Rating	√		N/A	
Workshop skills for Marine Engineers	Rating forms part of an Engineering Watch	√		N/A	

Training course	Qualification award	Course accredited		Intake p.a.	Output p.a.
		YES	NO		
Marine Electrician Ensure that all electrical equipment on the vessels are maintained and remain in a good working condition at all times. Ensure electricity safety, Health and Safety procedures are adhered to.	Marine Engineer	√		N/A	
Marine Fitter Responsible for overall critical, preventative and corrective maintenance of allocated vessel in the company fleet.	Marine Fitter		√	N/A	
Welder Appropriate technical condition of welding equipment and instruments; to perform electrogas (oxygen, acetylene, argon) welding works; to participate in works on service and repair. Is bound to have skills of the fitter.	N/A	√		N/A	
Turner Ensure appropriate condition of tools and equipment in engineering workshop.	N/A	√		N/A	
Joiner / Fitter Fulfil metalwork and installation, assist in repair	N/A	√		N/A	
Crane Operator Responsible for the off-loading of wet and frozen fish from trawlers and the loading of ice bins onto the trawlers as well as the loading and off-loading of parts and spares from vessels.	Being developed…will be run in future			N/A	

Training course	Qualification award	Course accredited		Intake p.a.	Output p.a.
		YES	NO		
Sector: Aquaculture (Freshwater culture)					
Skipper Takes farm workers out to farm where shellfish are on grown, ensure their safety with shellfish cargo on-board. Maintains radio contact with Port Control	Under 25t Skipper's Course (Small boat operators)	√		Appr. 30	90% +
Sector: Seafood Processing					
Supervisor – Cleaning and Sanitation			√	On demand	
Marine HACCP Controller			√	On demand	
Sector: Ports and Harbours (Engineering)					
Marine Engineers up to class	Marine engineers up to class 4	√		N/A	
Sector: Ports and Harbours (Marine)					
Chief Marine Engineering Officer Operates and maintains all marine engineering assets		√		N/A	
Marine Engineering Officer Operates and maintains all marine engineering and electrical systems on marine engineering assets		√		N/A	
Marine Mechanic Assists the Marine engineer with the maintenance of all electrical equipment			√	N/A	
Motorman	Rating	√		N/A	
Dual Purpose Rating		√		N/A	

Training course	Qualification award	Course accredited		Intake p.a.	Output p.a.
		YES	NO		
Sector: Ports and Harbours (Technical Services)					
Fitter & Turner		N/A			
Boilermaker		√		N/A	
Welder		√		N/A	

Safety Department					
Training course	**Qualification award**	**Course accredited**		**Intake p.a.**	**Output p.a.**
		YES	**NO**		
Elementary First Aid To take immediate action upon encountering a medical emergency on board the vessel	Irrespective of position, all seafarers of any ship that is certified, are expected to do such course	√		N/A	
Advanced First Aid To apply immediate first aid in the event of an accident or illness on board	Irrespective of position, all seafarers of any ship that is certified, are expected to do such course	√		N/A	
Fire Prevention and Fire Fighting To minimise the risk of fire and maintain a state of readiness	Irrespective of position, all seafarers of any ship that is certified, are expected to do such course	√		N/A	
Advanced Fire Fighting To competently muster and control a fire	Irrespective of position, all seafarers of any ship that is certified, are expected to do such course	√		N/A	
Personal Survival Techniques To survive at sea in the event of ship abandonment	Irrespective of position, all seafarers of any ship that is certified, are expected to do such course	√		N/A	
Proficiency in Survival Craft To undertake the tasks, duties and responsibilities required to take charge of a survival craft or rescue craft	Irrespective of position, all seafarers of any ship that is certified, are expected to do such course	√		N/A	

Conclusion

Industry priorities as outlined in this occupational map highlight the existing training needs and skills gaps in the fisheries and maritime sectors. The consultants designed this occupational map to provide a tool specifically aimed at fast-tracking the national unit standards and qualification development process that follows this study.

The following is a summary of priorities as well as overall conclusions for the different industry sectors.

General Findings

Generic skills gaps / shortages:

- Basic literacy and numeracy are lacking;
- Communication skills are required in English and Afrikaans;
- Maths and science skills are lacking;
- Namibia does not have many qualified Namibians in the marine technical and mechanical fields;
- Entry qualification requirements into industry – the feeling is that often current Grade 10 graduates are not equipped with the necessary knowledge and skills to enter work in the commercial sector. Hence one frequently sees the entry level qualification requirement being Grade 12 – especially in the aforementioned areas of literacy, numeracy, communication, maths and science.

Commercial Fishing

Marine Capture Fishing

In ***demersal fishing:***

- **Namibian captains** are currently often required to be understudies to foreigners. They need to be given more opportunities.
- Technical people with good experience are always scarce.
- There is a shortage of **Namibian Fleet Technical Superintendents**.
- Need for qualified **Chief Engineers**. NAMFI does however not equip its students with a certificate that is recognized outside Namibia.
- NAMFI does not train engineering officers Class IV and higher.
- There is an acute shortage of Marine Engineers with the relevant experience. Academically NAMFI takes care of industry needs to a certain extent but the major shortcoming is experience. It is paramount that Marine Engineers get exposed to as wide a range of vessels as possible in order to garner the necessary experience. Working for one company on the same vessel year in and year out does not lend itself to developing the required skills to be a well-rounded Chief Engineer suitable for any vessel or situation.
- Good **Second Engineers** on vessels are also currently hard to find.

- Some of the gentlemen in positions, particularly engineering positions, are also not young anymore, and will need to be replaced in 5 to 10 years.
- Younger engineers are now more and more attracted to the mining industry, causing fishing industry shortages.
- Re-look at the issue of classification of engineers on Namibian vessels – engineering requirements are too high. The safe manning of vessels for engineering officers is too high.
- Some employees, who are currently working in a position, might not have the correct qualification but shortage in the field has forced industry to obtain an exemption for that person. He might have many years relevant experience but does not have the qualification. Some also do not want to go and "learn" anymore.
- There are not sufficient job attachment opportunities available in the marine industry. There is too much outsourcing of work and phasing out of technical jobs.
- Namibians to be trained according to DMA/NQF standards, so as to enable Namibians to take over some positions occupied by foreigners (all understudy training to be investigated properly on a yearly basis).
- Put together an industrial plan of action regards training needs and development amongst the youth. To develop training needs in regards to obtaining sea time and not always dependent on exemption of their tickets.
- Identify gap between current ticket/qualification level and demand/requirement level of qualification.
- **Cooks** need enhanced training, such as culinary training, learning about producing balanced meals and being able to properly plan and budget for food.
- There is a shortage of onshore **Fleet Operations Supply Superintendents**, as the position requires a lot of on the job experience, involving management and planning skills, with past vessel experience at sea.
- **Netloft Superintendents** are mostly foreigners. More training is needed for Namibians to prevent shortages in the future. Need training in fishing gear technology, where the net is matched to the vessel power.
- **Skill shortages by position include**: Captains current to 10 years; First Mate current to 10 years; Second Mate current to 10 years; Cooks and 2nd Cooks, current; Galley Boys and Stewards current to 10 years; Fishing Deckhands, Winch Operator, Chief Engineer, Second Engineer, Greaser, Jetty Charge Hand and Jetty Workers, Crane Operator, Net Repairer, Fleet Technical Superintendent, Marine Electricians, Marine Fitters, and Fuel Attendants are all experiencing current shortages – 10 years; Fleet Operations Supply Superintendent current shortage; Fleet Technical Foreman, shortage in 5 - 10 years, the same being the case for Maintenance Planners. Netloft Superintendents expect shortages in 5 years. Some of these shortages will be due to people who have been working long in the fishing industry, retiring. Other shortages are due to current skills gaps.

In ***pelagic fishing:***

- Pilchard vessel crew are primarily a younger generation now having good skills, with NAMFI able to give potential crewing advice when there are shortages.

- With the emphasis towards Namibianising the local pole and line tuna fleet, there will be a significant increase in the number of Namibians on pole and line vessels. This will require a greater emphasis on training in this sector to maximise competitiveness.
- While surface longline vessels are primarily chartered at this stage for commercial reasons, with time the local industry will establish itself in this sector, meaning that in the next 10 years or so, there will be a need for training of Namibian surface longline vessel crews, so that they can compete with foreign vessels.
- There is a shortage of "skilled" Chief Engineers. 15 years training is required across the spectrum to know everything.
- Need sea training practical experience – so many sea hours.

In ***midwater trawl fishing:***

- Find ways of creating greater Namibian fishing and maritime skills capacity on vessels, which due to their size require highly skilled capacity in top-level positions. In the midwater trawl sector, foreigners fill the top 35% of jobs. Namibians either need to be trained to fill these positions, or these positions will continue to be filled by foreigners with the necessary skills. Namibianisation is the ultimate goal.
- Because the vessels are Russian made, crew of Russian and Eastern Europe origin currently operate the top vessel positions. They are highly qualified, but due to their home origins do not demand the same salaries a Namibian would in the same position (for example in the demersal hake sector), resulting in it being hard to attract Namibians into these positions.
- The Namibian Fisheries and Maritime Institute, as a training institution regulated under the maritime STCW Convention, is currently not geared to provide training qualifications for the top positions on these large horse mackerel vessels. This is a source of frustration for the Namibian midwater trawl fishing companies, who are now having to send trainees to Russian Maritime skills at huge expense – they must first learn Russian before they can proceed with proper training.
- Vessel "**Masters**" currently all foreign and it will be 10-15 years before Namibians are in these positions.
- **Chief Mate** – all foreigners – 10-13 years before Namibians fill these positions.
- **1st Mate** – all foreigners – 10 years plus before Namibians fill these positions.
- **2nd Mate** – all foreigners – 5-6 years before Namibians fill these positions.
- **3rd Mate** – 1 Namibian – 4-5 years before Namibians fill these positions.
- **Electronics and Acoustics Operator** – all foreigners – 10-15 years before Namibians fill these positions.
- **Bosun / Trawl Master** – 1 Namibian – 3-5 years before Namibians fill these positions.
- **Chief Engineer** – all foreigners – 15 years plus before Namibians fill these positions.
- **2nd Engineer** – all foreigners 15 years before Namibians fill these positions.
- **Assistant 4th Engineer** – currently 5 Namibian, being on all vessels in the next 5-10 years.
- **1st Motorman**. Currently all Namibian. However, they are also being lost to the mining industry that pay more, and consequently need to be replaced as need be.

- **2nd Motorman**. All Namibian, but looking at 2 per vessel in the next five years.
- **Marine Electrician** – all foreigners – expect there to be 1-2 Namibians in the next five years, and 5 Namibians within the next ten years, the limited numbers being that they are also lost to the mining sector.
- **Assistant Electricians** – all Namibians with no shortages.
- **Chief Cooks** – currently all foreigners as cook for the senior Russian crew. Should be all Namibian within the next 10 years.
- **Chief Trawl Master**. All foreign, due to the vessel equipment being Russian. Should be all Namibian within the next 10-15 years.
- **1st Mechanical Adjuster**. All foreigners. Should be all Namibian within the next 10 years.
- **Welders, Turners, Joiner/Fitters**. All foreigners. Should be all Namibian within the next 10 years.
- **Ships Doctor** – all foreigners – Namibian shortage due to foreigners with expertise working for less money.
- **Steward(ess**) (foreign) / **Galley boy** for Namibians. 2 per vessel split 50:50 foreign and local. Foreigners diminishing, with Namibians holding both positions in the next 10 years.

In conclusion within the Marine Capture Fishing sector:

- *Most skill shortages are in higher-level positions.*
- *It is important that NAMFI training courses are complying with industry demand.*
- *Academically NAMFI takes care of industry needs to a certain extent but the major shortcoming is experience. It is paramount that Marine Engineers get exposed to as wide a range of vessels as possible in order to garner the necessary experience. 15 years training is required across the spectrum to know everything.*
- *Namibians to be trained according to DMA/NQF standards, so as to enable Namibians to take over some positions occupied by foreigners (all understudy training to be investigated properly on a yearly basis).*
- *Namibian captains are currently often required to be understudies to foreigners. They need to be given more opportunities.*
- *There are not sufficient job attachment opportunities available to fishing industry technical personnel in the marine industry. Training positions need to be made available by fishing industry service providers, resulting in transfer of skills. .*

Aquaculutre

Under **aquaculture** in the **mariculture** sector key priorities and skills gaps include:

- Literacy, and numeracy, language skills, taking and giving instructions and confirming understanding.
- Driving licenses.
- In house procedural training e.g. closing chiller and cold store doors, covering and wetting oysters in hot weather etc. Effects of time temperature and trauma on live animals.
- Importance of record keeping and in house recording procedures.
- Basic food hygiene.
- Mechanical training – routine and troubleshooting maintenance of pumps outboard engines etc.
- Basic computer skills.
- Skippering mariculture-farming vessels.
- Basic seagoing skills – knots and splicing, mooring and un-mooring, safe working practices.
- Training for making oyster baskets
- Production techniques & extension methodologies (by species oyster, abalone farming, seaweed, etc.)
- Training in marketing of mariculture products both in and outside Namibia.
- Processing and quality assurance.
- Management of mariculture farms.
- Development of business plans and feasibility studies.
- 1-3 week mariculture course in animal husbandry and biology of species.
- There is a need for professional, technical and skills training relating to production management and relevant technology.
- Need marine biologists for proper aquaculture research (Government positions providing extension research support), rather than the current trial and error process that commercial farms are currently doing.
- Bank financing employees need on-going training to assess financial feasibility of aquaculture projects.
- Skills shortages for job positions include: **Offshore Oyster Farm Managers**, Marketing **Managers, Skippers, Offshore Supervisors**, **Onshore Supervisors**, **Administration Officers, Commercial Divers, Lobster Farm Managers, Abalone Hatchery Assistant Managers,** and even **Labourers** as mariculture farm production is likely to increase significantly in the next 10 years. Once this growth gains momentum, then we will see additional skills required to operate oyster hatcheries, as they too will need to expand to cope with additional production demand.

In ***freshwater aquaculture***:

- Production techniques & extension methodologies (by species, pond culture, cage culture, recirculation aquaculture systems, hatcheries).
- Marketing of inland fish products in Namibia.
- Processing and quality assurance.
- Record keeping on fish farms.
- Management of fish farms.
- Development of business plans and feasibility studies.
- Skills shortages include: **Farm Managers** which is likely to be the case for the next 5 – 10 years; **Hatchery Supervisors** 5 – 10 years; **Production Supervisors** 5 years; **Maintenance Supervisors** 5 years; **Post Harvest Supervisors** 5 years; **Marketing and Distribution Officer** 5 years; **Admin Officer** 5 years; and current shortages for skilled **Farm Attendants**, **Processing Attendants**; and **Data Capture Clerks**.

In conclusion, within the Aquaculture sector:

Skills development within the identified higher position levels will be required, particularly as the industry expands. Also basic practical skills amongst lower level workers need to be enhanced. In addition, to promote accelerated development of aquaculture Government support through provision of extension services is required. This means Government staff will need to have the necessary skills to achieve results, including providing freshwater and marine biology research to industry.

Seafood Processing

In the **d*emersal*** *(onshore and offshore) sector, sub-sector filleting & fishmeal:*

- Value adding means more technical expertise is required to manufacture the product, both directly inside processing factories, and by support services looking after factory machinery.
- At a higher level, good marketing and strategic personnel are required involved in ensuring that value adding results in greater profitability.
- Namibia does not have many qualified Namibians in the marine technical and mechanical fields.
- Would like to see more qualified people to operate and repair most equipment and machinery in the fish processing plant/production areas.
- In order to get the required detailed industry needs it would be imperative that the service providers be approached, as many fishing / processing companies outsource their maintenance needs to established engineering companies. They would have more up-to-date and relevant information on skills shortages and the current state of training.

- Better-trained Production Supervisors in fish processing required.
- Need more computer literacy training in the industry.
- More “planning skills” need to be applied in maritime training with regards vessels and fish quality assurance.

Skills shortages were indicated for the following positions:
Production Cost Controller; Production Superintendent; Production Supervisor; Production Admin Clerk; Marel Production System Technician; Marel Production System Administrator; Factory Technical Superintendent; Vessel Factory Manager; Cold Storage Receiving Clerk; Cold Storage Loading Master; Cold Storage Operator; Supervisor Quality Control; Supervisor Cleaning and Sanitation; Supervisor Building and Maintenance; Safety and Environmental Officer; Foreman Refrigeration; Refrigeration Mechanic; Assistant Refrigeration Mechanic; Refrigeration Operator; Baader Mechanic; Store man; Factory Electrician; Factory Assistant Electrician; **Engineering Maintenance Assistant; Truck Driver; Forklift Driver.**

In the **p*elagic* *sector***, in the sub-sector canning, filleting, loins, steaks & fishmeal:

- In the small pelagic sector, the main concern is ongoing supply of people with expertise to achieve specific canning requirements. This includes **Seamer Mechanics** who seal the cans, **Retort Operators** who cook the fish inside the cans and ensure it is sterilised, **Quality Inspectors** who check on the quality of the fish and its seafood safety aspects, **Boiler Operators** who ensure there is enough steam for the factory, and **Machine Operators**, the latter two positions also having a maintenance function. Some of these positions require specialist training which currently occurs in house.
- With the large pelagic sector moving towards achieving greater value addition of the product, like with the demersal sector, this will require more technical expertise to manufacture the product, both directly inside processing factories, and by support services looking after factory machinery.
- At a higher level, good marketing and strategic personnel will be required involved in ensuring that value adding results in greater profitability.

In the **midwater trawl** sector, horse mackerel is currently all processed at sea as frozen whole product, with some turned into fishmeal. There was in the past experiments to value add by filleting the fish but at the time this was not successful. Continued exploratory efforts to value add product will be required, greater employment being an outcome of this.

- Efforts have been made to Namibianise personnel in the at sea fish processing operations. All factory hands are Namibian, as well as other lower level positions such as Holdmen. Fish Master Supervisors in the factory are currently 60% Namibian, increasing to 80% in the next 5 years, and all of them being Namibian in the next 10 years. On-board Quality Controllers are also Namibian.

- Namibian skills shortages exist at the higher level such Chief Technologists, Fishmeal Operators, and Refrigeration Motormen, level, but as Namibian's master the factory operations, these positions should be filled in the next 5 -10 years.

In conclusion, within the Seafood Processing sector:

Namibian skills shortages exist at higher levels, including marine technical and mechanical positions (not at the level of seafood processing line workers). With the move towards greater emphasis on value adding of product, this requires more marine technical expertise to support the manufacture of products in compliance with international requirements, both directly inside processing factories, and by support services looking after factory machinery. Employees with good skills in marketing and strategic development will also be required to ensure that value adding results in greater profitability. There is a need to harness the experience of company personnel to broaden knowledge on producing retail products and merchandising, as well as to prepare a platform for the Namibian seafood processing industry to move into the more complicated but financially lucrative field of secondary processing.

Maritime

Ports and Harbours

Overall there is a needfor more expertise "depth" – there are not enough people with necessary expertise in many positions.

Ports and Harbours has identified key training needs in departments relating to maritime activities, including:

Marine sub-sector dealing with port and harbour operations:

- Pilot training needed. Need necessary sea time to qualify – need to resolve to effectively achieve Namibianisation – currently foreigners fill these positions.
- Marine engineering training needed.
- Port Controllers need further training.

Bulk & Breakbulksub-sector, dealing with cargo of fuel, fish, sulphur and general cargo:

- General port operations training required, particularly for older, low qualified General Worker / senior positions.
- Training required for mechanical lifting equipment operators – critical skills shortage as don't have professionally "certified" operators – in South Africa there is a Port Academy to undertake this training. Currently in Namibia there is no in house training in this area.
- Shortage of vessel planners.

- Computer training to achieve effective cargo planning required – linking cargo loading / unloading with vessel ballast water quantities to optimise vessel stability.
- Tally Clerks need training, as port is moving into computerised automation – tracking cargo containers within the port.
- There is a skills shortage for General Worker / Senior positions, as often are not able to read or write. Also the people in the positions are getting old, the industry becoming too challenging and complex for them now.
- Basic literacy, mathematics and science skills shortages.

Container Terminal (containerised cargo):

- The Container Terminal cargo volume will grow fast in the coming years.
- Yard Planners make sure containers don't get lost and there is a skills shortage as they require maths skills, and training in logistics and value chain skills specific to ports.
- The training needs as specified in Bulk and Breakbulk cargo are also applicable.

Engineering (port engineering including growth, statutory, and maintenance projects):

- Shortage of Civil Engineers
- Training required for Computer Added Drawings (CAD)
- Port related infrastructure maintenance and design skills needed.

Technical Services supporting the port:

- Need basic literacy, maths and science, as well as computer skills.

Syncrolift (dry dock facility):

- Need two divers, one for Walvis Bay and one for Luderitz.
- Need training in literacy, maths and science, and computer skills.
- Need syncrolift training exposure from outside the country, as this is the only facility in Namibia.

In conclusion, within the Ports and Harbours sector:

This sector is becoming more technically complex, and expanding fast. There is a need to provide the necessary skills training in higher level positions to cope with this increased technical complexity, as well as provide basic literacy, maths and science as well as computer skills at lower levels, so that all positions complement and support each other, to ensure global competitiveness.

Regulatory Authority Training Needs

Regulatory compliance involves industry complying with:

- Fisheries Inspectors from the Ministry of Fisheries and Fisheries Observers from the Fisheries Observer Agency in terms of monitoring, control and surveillance
- Ship Surveyors from the Directorate of Maritime Affairs in terms of safety and environment, including radio communications
- The IMO STCW Convention through the Directorate of Maritime Affairs
- Export seafood safety compliance monitored through the Namibian Standards Institution, supported by NatMIRC scientists from the Ministry of Fisheries and Marine Resources in the mariculture sector who monitor water quality and potential harmful algal blooms in terms of their impact on shellfish seafood safety.
- Aquaculture Directorate staff of the Ministry of Fisheries and Marine Resources also undertake research and extension services to promote inland freshwater aquaculture.

Training needs of these Authorities are listed in the report, key areas comprising:

- "Managerial and supervisory courses";
- "Technical courses" such as: to enhance computer training; business/budgeting; archive/record keeping; customer service training; revenue collection; statistical training and data management; project management; report writing skills;
- "Specialist courses" such as: International Law of the Sea 'Maritime'; law enforcement and crime prevention; flag and port state measures to combat ICC fishing; vessel monitoring system operations; fisheries laws and regulations; fisheries policy and planning; marine culture technology; water management monitoring and sampling; laboratory analysis technology; biological sampling analysis; disease monitoring and control; extension services; breeding techniques; hatchery technology; training to 1/2 Deck Officer or Marine Engineer with foreign seagoing experience for ship surveyors; fisheries inspector and observer course as well as international conventions training and learning commercial scientific sampling; additional training for NSI inspectors to enhance their food inspection and sensory evaluation capacity within the food safety environment.

In conclusion, within the Regulatory Authorities:

There is a need for relevant stakeholders with possible support from the Industry Skills Committee and NTA, to sit with the Training Departments of these Regulatory Authorities, as well as the Public Service Commission, to develop an overarching strategy on professional development.

NAMFI Training Provision

NAMFI provide training for both the Commercial Fishing Industry and Ports and Harbours, as indicated in this section of the report. The training does not extend to senior maritime qualifications, such as is required on the large vessels in the "Midwater Trawl" fishing sector.

NAMFI training appears to have a number of shortcomings in the "Demersal" fishing sector, namely:

- the certificate is not recognised outside Namibia
- many of the seamen try to get the qualification but cannot pass the NAMFI tests
- graduates from NAMFI often lack the necessary Maths knowledge.

Namport suggested that to strengthen the role of NAMFI as a training provider, Namport could provide guidance expertise.

In conclusion, with regard to NAMFI:

Strengthening of NAMFI to meet industry skills gap needs would best occur through the formation of a committee involving Directorate of Maritime Affairs, NAMFI, Namport, and the Fishing Industry. Contact would then be made to the International Maritime Organisation with the intention of strengthening STCW Convention training capacity. It is hoped that the IMO, or a funding agency such as the European Union could then assist with funding to facilitate the process of these bodies working jointly to improve the necessary competencies required to strengthen NAMFI capacity to the benefit of all sectors.

- *NAMFI does not equip its students with a certificate that is recognized outside Namibia.*
- *NAMFI generally does not train officers Class IV and higher and this in particular is impacting the midwater trawl sector. Namibians either need to be trained to fill these high level positions, or these positions will continue to be filled by foreigners with the necessary skills.*
- *Some employees, who are currently working in a position, might not have the correct qualification but shortage in the field has forced industry to obtain an exemption for that person. He might have many years relevant experience but does not have the qualification. This needs to be addressed from a training perspective, as employees must ultimately meet the required standard.*
- *Develop training needs in regards to obtaining sea time and not always dependent on exemption of their tickets. Need sea training practical experience – so many sea hours. Existing crew on vessels should be given the first opportunity for training at NAMFI.*
- *Identify gap between current ticket/qualification level and demand/requirement level of qualification.*

Qualification Structure

There is a strong need for developing a national workforce, effective and efficient in its operation, and highly skilled to compete with the requirements of the global market. The development of national recognised qualifications will contribute to the implementation of flexible and demand-driven training programmes, addressing current and future industry needs.

The following industry structure, classified in subfields and domains, is recommended for the development of qualifications to be registered.

Subfield: Commercial Fishing
Domains:
- Demersal
- Pelagic
- Midwater Trawl
- Aquaculture

Subfield: Seafood Processing
Domains:
- Demersal - Onshore/Offshore (filleting and fishmeal)
- Pelagic - Onshore (canning, filleting/steaks, and fishmeal)
- Midwater Trawl - Offshore (frozen whole, filleting, and fishmeal)

Subfield: Port and Harbour Operations
Domains:
- Marine Port Operations
- Bulk and Breakbulk (cargo)
- Container terminal (cargo)
- Dry dock
- Port engineering
- Technical support

In conclusion, from a career pathways perspective, besides domain specific unit standards, it is recommended that core unit standards common across each domain (under each subfield) would be developed. This will allow for flexibility and transportability of credits from one to another domain (multi-skilling). This option shows a learner's progression from one sub-sector (domain) to another, instead of necessarily from job to job within the sub-sector. If the ISC approves this, it will assist in clustering the qualifications, and it will also help the ISC in making decisions on their priorities in terms of unit standard development by indicating the different domains (not jobs).

Appendices

Appendix 1 Commercial Fishing Industry Employment Breakdown

Source: Ministry of Fisheries and Marine Resources, 2010. Employment Verification Report.

Demersal Sector–Hake

Onshore and Offshore Employment

	2008/9	2009/10	2010/11
Onshore	4974	6103	6861
Offshore	2629	2336	2095
Total	***7603***	***8439***	***8956***

Gender

2008/9		2009/10	2010/11
Males Offshore	2623	2325	2087
Males Onshore	1776	2511	2871
Total Males	**4399**	**4836**	**4958**
Females Offshore	6	11	8
Females Onshore	3198	3592	3990
Total Females	**3204**	**3603**	**3998**
Grand Total	***7603***	***8439***	***8956***

Nationality

	2008/9	2009/10	2010/11
Namibians	7348	8271	8797
Foreigners	255	168	159
Total	**7603**	**8439**	**8956**

POSITIONS IN THE SECTOR

	2008/9	2009/10	2010/11
Administration	552	438	438
Bosuns & Winch men	41	17	17
Captain(s)	47	56	56
Crew	1475	1601	1601
Deck Officer(s)	76	131	131
Driver	1	1	1
Engineer(s)	101	140	140
General/Factory workers	3009	5346	5346
Jetty Crew	31	30	30
Management	147	178	178
Officers	103	94	94
Other	1949	319	836
Security	4	4	4
Shore Skipper/Technical	9	9	9
Skippers	9	7	7
Store man	1	1	1
Supervisor	47	65	65
Technician	1	2	2
Grand Total	***7603***	***8439***	***8956***

MARGINALISED AND DISABLED

	2008/9	2009/10	2010/11
Marginalised	0	0	0
Disabled	11	13	13
Grand Total	**11**	**13**	**13**

Monk and Sole

ONSHORE AND OFFSHORE

	2008/9	2009	2010
Onshore	20	116	134
Offshore	185	224	216
Grand Total	***205***	***340***	***350***

EMPLOYEES BY GENDER

	2008/9	2009	2010
Males Offshore	185	224	216
Males Onshore	13	76	88
Total Males	**198**	**300**	**304**
Females Offshore	0	0	0
Females Onshore	7	40	46
Total Females	**7**	**40**	**46**
Grand Total	***205***	***340***	***350***

EMPLOYEES BY NATIONALITY

	2008/9	2009	2010
Namibians	201	335	345
Foreigners	4	5	5
Grand Total	***205***	***340***	***350***

POSITIONS

2008/9	2009	2010
Bosun/Factory Manager	4	4	4
Captain(s)	4	17	16
Crew	45	152	150
Deck Officer(s)	5	28	25
Engineer (s)	8	31	29
Factory Manager	2	2	2
Freezer Bosun	1	1	1
General/Factory Worker	0	54	68
Management	0	7	7
Others	136	44	48
Grand Total	***205***	***340***	***350***

Pelagic Sector

Small Pelagics (primarily Pilchard)

Onshore and Offshore

2008	2009	2010
Onshore	905	1716	1284
Offshore	74	122	77
Total	**979**	**1838**	**1361**

POSITIONS BY GENDER

2008	2009	2010
Males Offshore	74	122	77
Males Onshore	483	1234	952
Total Males	**557**	**1356**	**1029**
Females Offshore	0	0	0
Females Onshore	422	482	332
Total Females	**422**	**482**	**332**
Grand Total	**979**	**1838**	**1361**

Nationality

	2008	2009	2010
Namibians	972	1830	1357
Foreigners	7	8	4
Total	**979**	**1838**	**1361**

POSITIONS IN THE SECTOR

2008	2009	2010	
Administration	16	22	14
Captain (s)	6	9	5
Crew	39	70	45
Deck Officer(s)	6	10	6
Driver	0	0	0
Engineer(s)	14	22	14
General Factory Worker	531	1280	1224
Jetty Crew	0	0	0
Management	17	17	14
Officers	8	10	6
Other	270	310	33
Security	5	5	0
Shore Skipper	10	10	0
Technical Skipper	10	10	0
Store man	1	1	0
Supervisor	45	60	0
Technician	1	2	0
Grand Total	**979**	**1838**	**1361**

Large Pelagics (primarily Tuna and Swordfish)

Onshore and Offshore

	2008/9	2009/10	2010/11
Onshore	196	231	158
Offshore	340	497	435
Total	**536**	**728**	**593**

EMPLYEES IN THE SECTOR – BY GENDER

2008/9	2009/10		2010/11
Males Offshore	340	497	435
Males Onshore	175	206	150
Total Males	**515**	**703**	**585**
Females Offshore	0	0	0
Females Onshore	21	25	8
Total Females	**21**	**25**	**8**
Grand Total	**536**	**728**	**593**

EMPLOYEES BY NATIONALITY

	2008/9	2009/10	2010/11
Namibians	412	585	505
Foreigners	124	143	88
Total	**536**	**728**	**593**

POSITIONS IN THE SECTOR

2008/9		2009/10	2010/11
Administration		4	4
Captain (s)	15	21	17
Crew	300	500	363
Deck Officer(s)	25	31	29
Driver	0	0	0
Engineer(s)	27	31	24
General/Factory Worker	65	39	56
Management	9	12	16
Officers	17	44	19
Other	41	46	65
Security	5	0	0
Shore Skipper / Technical	9	0	0
Skipper	10	0	0
Store man	2	0	0
Supervisor	10	0	0
Technician	1	0	0
Grand Total	**536**	**728**	**593**

Midwater Trawl Sector

Horse Mackerel

Onshore and Offshore

2008	2009		2010
Onshore	8	111	125
Offshore	253	769	904
Total	***261***	***880***	***1029***

EMPLOYEES BY GENDER

2008	2009		2010
Males Offshore	247	744	875
Males Onshore	5	59	71
Total Males	**252**	**803**	**946**
Females Offshore	6	25	29
Females Onshore	3	52	54
Total Females	**9**	**77**	**83**
Grand Total	**261**	**880**	**1029**

EMPLOYEES BY NATIONALITY

2008	2009		2010
Namibians	209	641	786
Foreigners	52	239	243
Total	***261***	***880***	***1029***

POSITIONS IN THE SECTOR

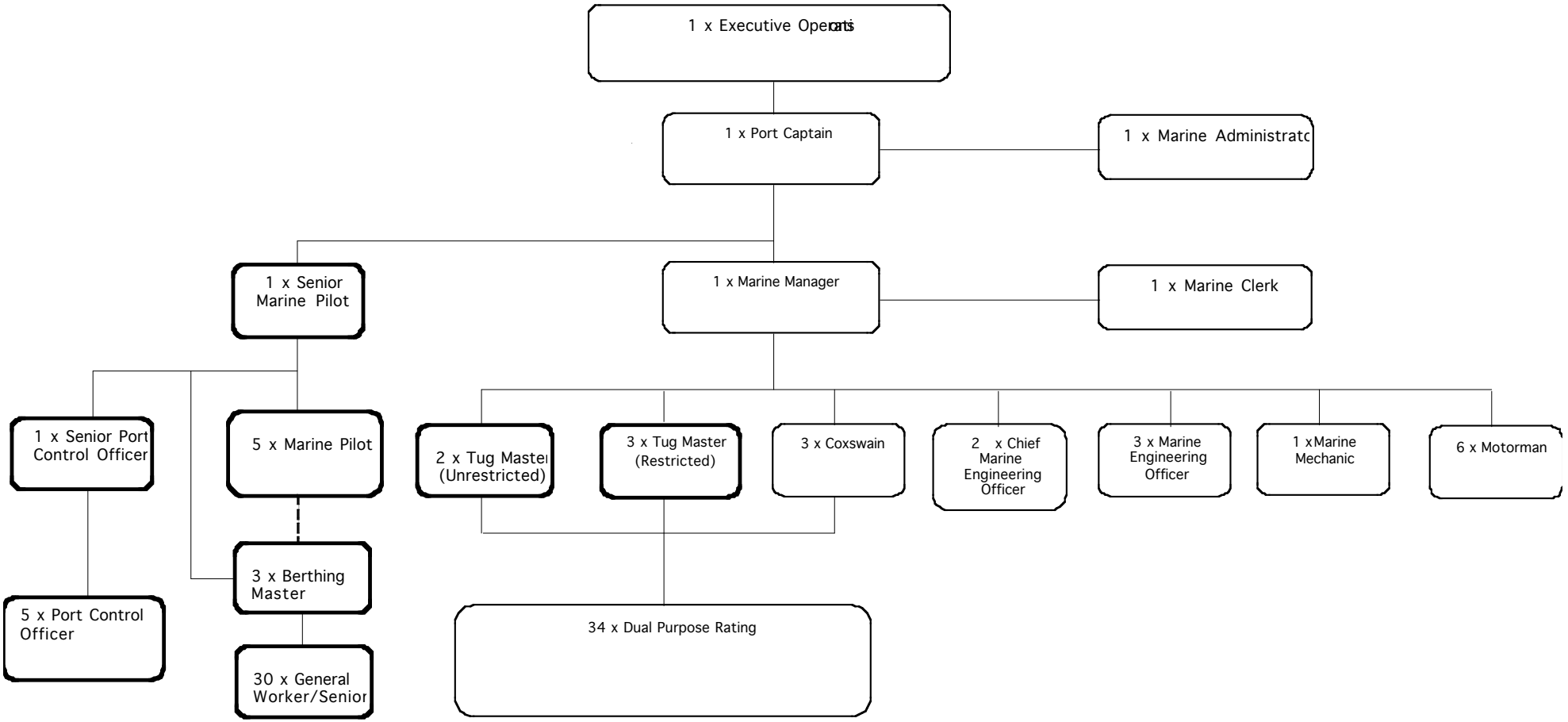
2008		2009	2010
Administration	6	46	50
Captain (s)	2	8	8
Crew	201	503	608
Deck Officer(s)	2	28	35
Driver	0	39	45
Engineer(s)	8	147	154
General/Factory Worker	0	0	31
Management	2	20	
Officers	10	16	14
Other	0	38	49
Security	4	4	4
Shore Skipper / Technical	10	10	10
Skipper	8	10	9
Store man	1	1	1
Supervisor	7	9	10
Technicians	0	1	1
Grand Total	**261**	**880**	**1029**

EMPLOYEES FROM MARGINALISED AND DISABLED SECTORS

2008	2009	2010
Marginalized	0	0	0
Disable	0	2	2
Grand Total	**0**	**2**	**2**

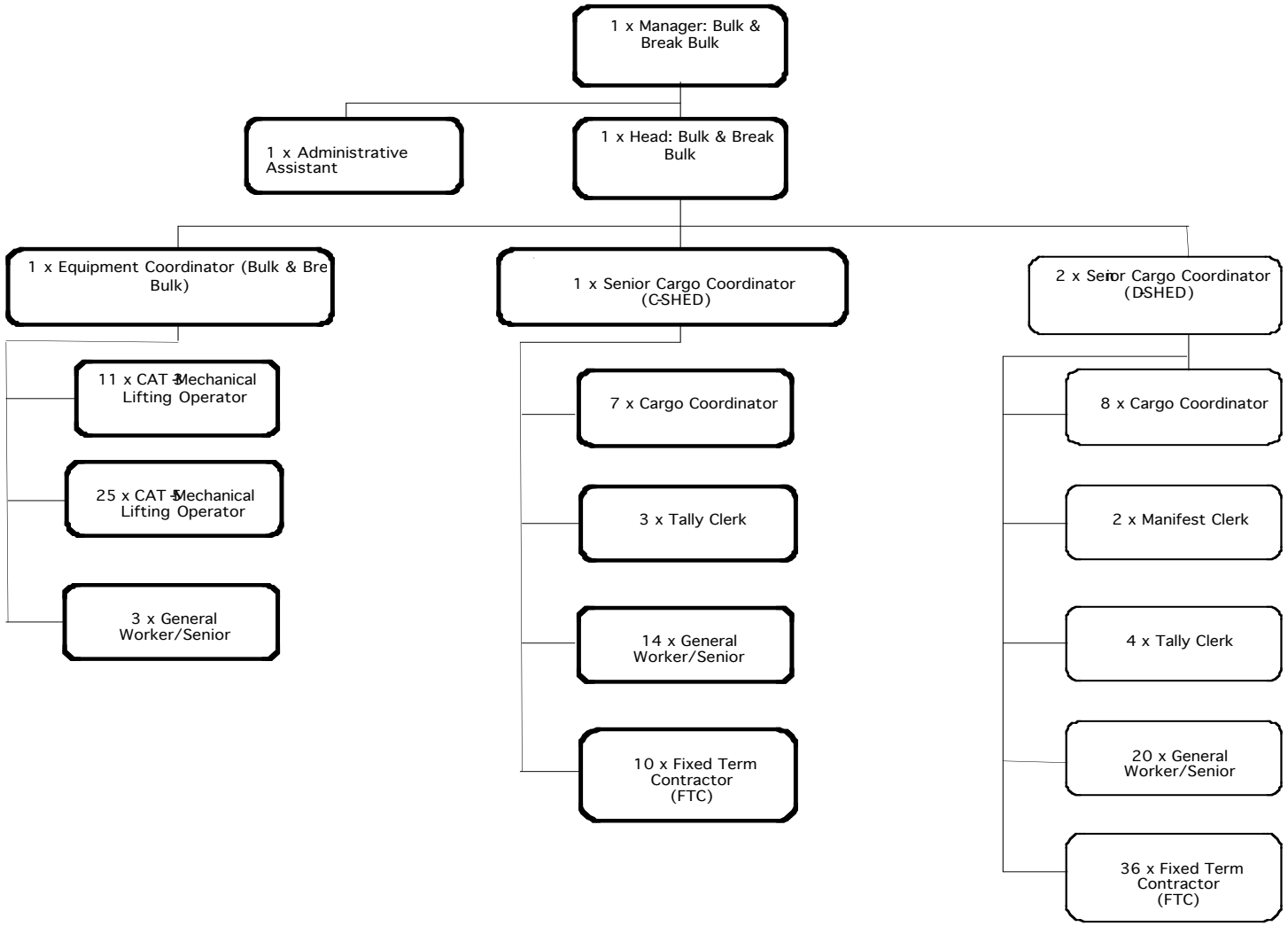
Appendix 2 Ports and Harbours

Marine Department Organisational Structure



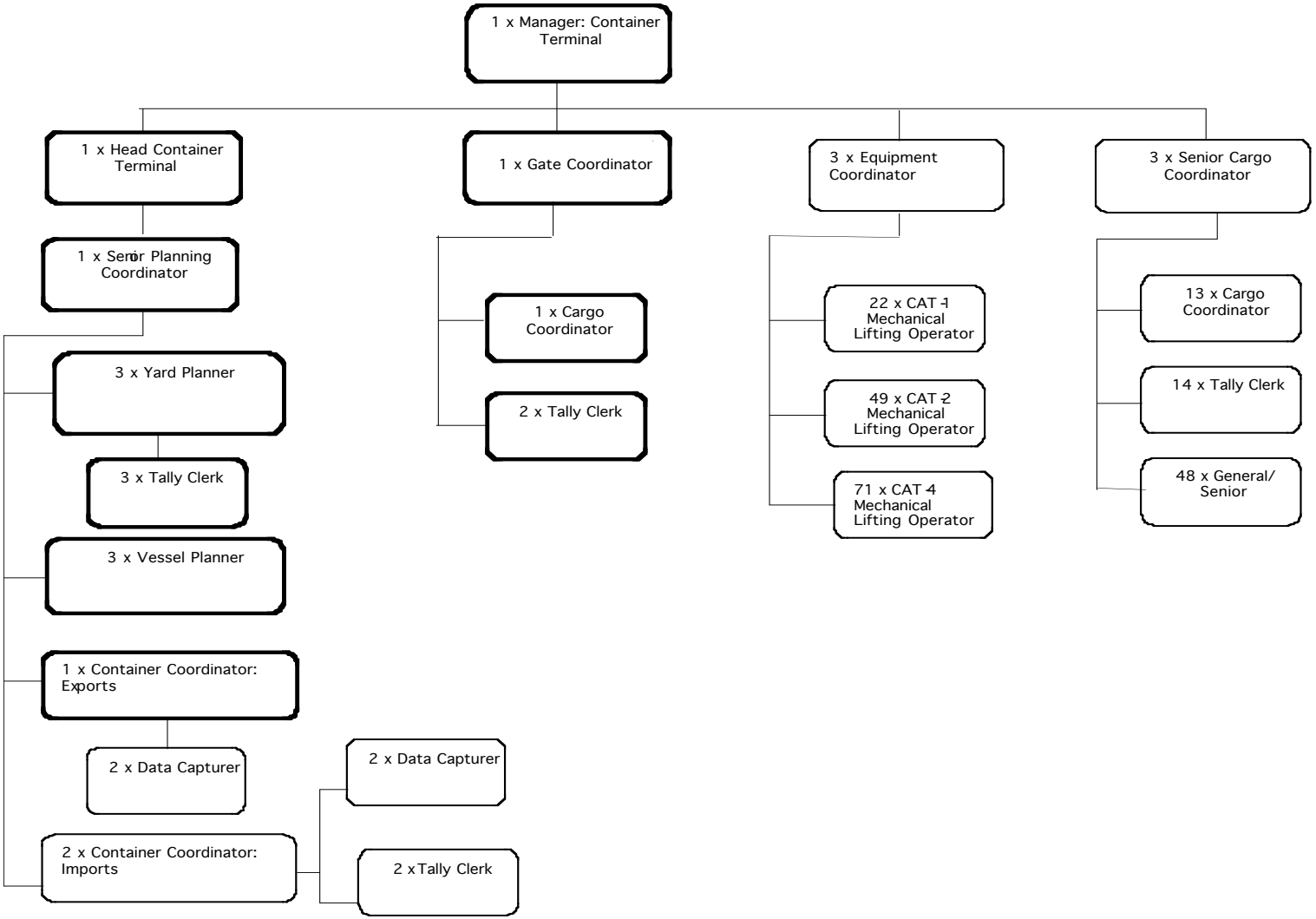
(Total = 106)

Bulk and Breakbulk Organisational Structure



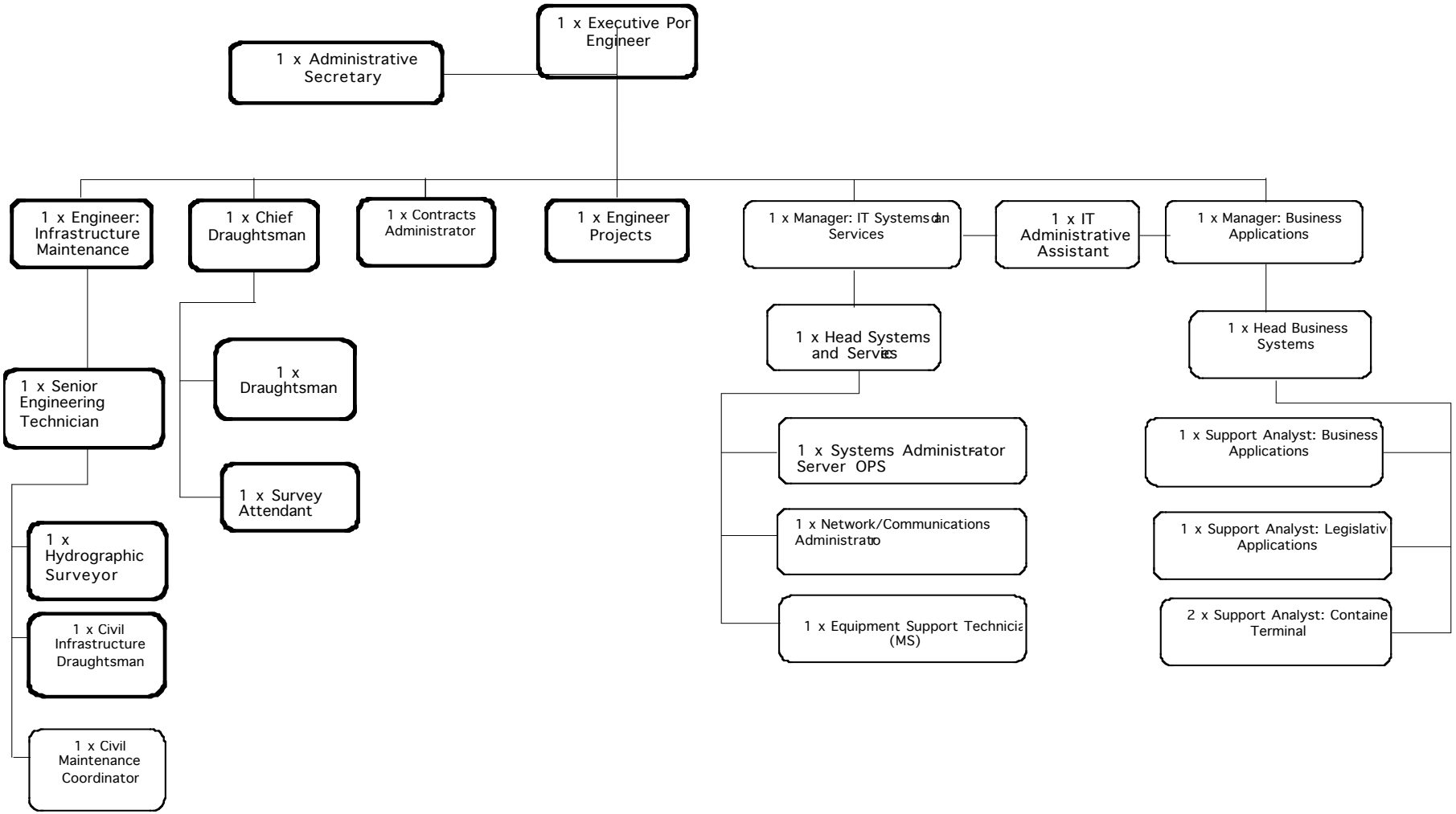
(Total = 150)

Container Terminal Organisational Structure



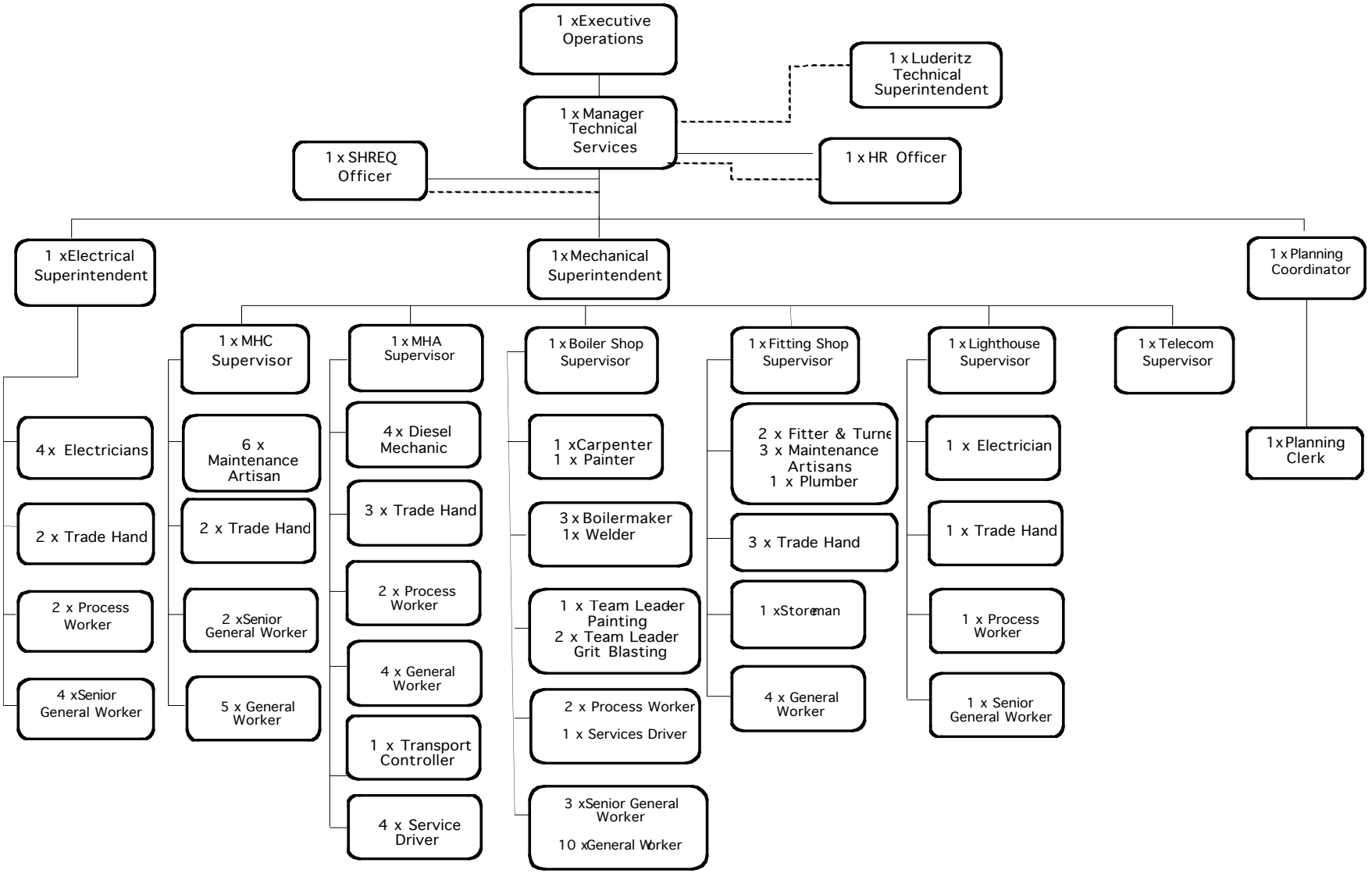
(Total = 248)

Engineering Department Organisational Structure



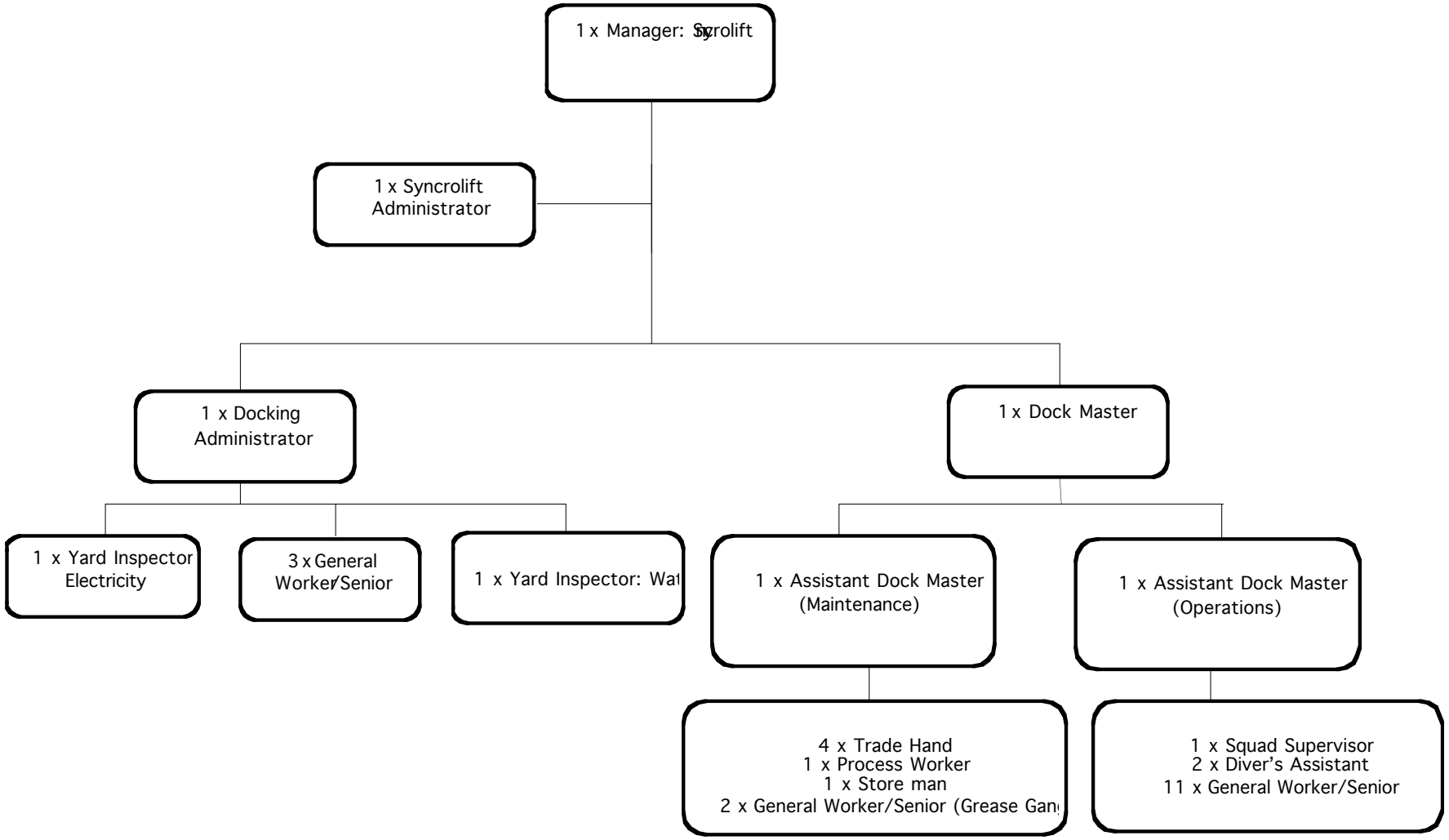
(Total = 24)

Technical Department Organisational Structure



(Total = 102)

Syncrolift (Dry Dock) Organisational Structure



(Total = 33)

Appendix 3 Namibian Fish Exports

EXPORT TRADE STATISTICS ON FISH AND FISH PRODUCTS BY NAMIBIA BY MAJOR COMMODITY, NET-WEIGHT (Kg) AND VALUE (N$), PRELIMINARY.

	2007		2008		2009		2010	
	Total Exports		Total Exports		Total Exports		Total Exports	
HS AND COMMODITY DESCRIPTIONS	**Value**	**Net-Weight**	**Value**	**Net-Weight**	**Value**	**Net-Weight**	**Value**	**Net-Weight**
030223:Fresh or chilled sole	110 362	4 050	373 657	16 972	3 010 344	124 912	2 051 911	101 205
030229: Other fresh or chilled flatfish (excl. halibut, plaice and sole)	85 390 875	2 583 256	99 293 378	2 717 342	93 622 739	3 007 882	83 234 218	3 205 244
030231:Fresh or chilled albacore or longfinned tunas	21 187 196	500 211	20 934 108	453 259	15 752 535	314 330	857 102	23 573
030239:--Other albacore or longfinned tunas	3 293 387	225 612	8 041 647	363 923	107 207	6 576	139 468	9 983
030261:Fresh or chilled sardines, brisling or sparts	19 358	442	225 534	138 660	1 408 587	146 902	163 706	5 938
030264:Fresh or chilled mackerel	1 744 269	161 619	4 512 519	881 275	14 265 297	876 898	44 153 079	1 609 801
030269:Fresh or chilled fish, nes	30 024 607	976 199	9 971 850	553 934	12 230 838	294 454	30 600 070	937 372
030319:OTHER SOCKEYE SALMON	297 746	27 437	312 901	1 315	21 137	245	120 224	1 400
030333:--Sole (SOLEA SPP)	1 449 873	51 227	1 735 254	82 023	3 244 624	144 797	5 122 840	233 376
030339:--Other halibut	8 910 450	117 303	28 699 628	372 048	8 852 911	144 103	182 886	3 035
030341:--Albacore or longfinned tunas (THUNNUS ALALUNGA)	20 470 776	58 321 869	30 340 062	1 486 594	124 846 674	5 009 086	49 288 045	2 185 129
030342:--Yellowfin tunas (THUNNUS ALBACARES)	1 446 390	65 998	201 595	14 573	1 585 572	33 172	888 513	56 149
030344:--Bigeye tunas (THUNNUS OBESUS)	667 618	50 209	9 174	558	1 142 167	32 203	1 316 199	81 547
030349:--Other albacore or longfinned tunas	4 867 304	368 601	13 720 663	648 722	1 898 437	31 636	11 318 560	1 687 500
030361:Frozen swordfish (XIPHIAS GLADIUS)	963 561	16 785	516 802	52 852	11 953 596	354 039	13 565 258	345 999
030371:Frozen sardines, brisling or sprats	19 223 499	2 965 744	12 483 733	820 538	2 619 225	220 976	12 892 227	1 217 319
030374:Frozen mackerel	357 630 829	69 396 711	591 342 951	929 323 696	795 396 383	120 219 178	1 022 993 693	89 778 386
030375:Frozen dogfish and sharks	30 740 317	2 724 066	22 271 091	1 820 384	40 397 278	1 957 132	45 126 948	2 838 848
030378:Frozen hake	1 575 420 091	109 956 747	1 784 240 904	63 244 910	1 016 363 707	34 088 819	325 711 226	16 190 598
030379:Frozen fish, nes	211 427 376	13 321 758	215 119 549	21 867 431	455 892 559	18 248 388	604 487 402	33 240 291
030411:Fresh or chilled swordfish (XIPHIAS GLADIUS)	0	0	62 117	2 095	17 982	418	635 695	10 185
030419:Fresh or chilled -- other	49 240 849	1 048 670	129 000 002	3 178 750	124 068 453	4 067 814	41 813 036	1 503 170
030421:Frozen fillets swordfish (XIPHIAS GLADIUS)	3 393 892	233 783	936 634	130 510	28 701	882	3 558 133	288 314
030422:--Toothfish (DISSOSTICHS SPP)	303 195	20 299	0	0	0	0	514 401	37 295
030429:Frozen fish fillets -- other	420 358 159	12 260 407	799 131 195	21 140 980	1 383 831 584	35 860 549	1 988 645 511	57 632 420
030491:Other -- swordfish (XIPHIAS GLADIUS)	2 335 925	160 391	1 511 033	100 309	5 210 836	51 627	832 535	55 070
030492:--Toothfish (DISSOSTICHS SPP)	179 219	5 580	0	0	0	0	351 933	20 010
030499:--Other	184 251 673	43 270 334	303 161 486	34 149 265	281 113 176	34 486 337	311 523 819	41 535 395
030510:Flours meals and pellets of fish, fit for human consumption	7 101 186	466 266	6 303 660	381 883	1 941 189	151 977	4 929 091	389 519
030520:Livers and roes, dried, smoked, salted or in brine	0	0	0	0	27 026	2 011	465 261	977
030530:Fish fillets, dried, salted or in brine, but not smoked	580 345	55 022	191 561	4 791	11 418	169	1 143 412	39 781
030549:Smoked fish (excl. salmon and herrings)	582 304	172 112	161 669	5 930	75 896	941	111 658	1 123
030559:Dried fish, not smoked (excl. cod)	376 213	107 770	6 443 409	432 681	32 913 294	873 738	29 953 242	1 052 341
030569:Other fish salted or in brine but not dried or smoked, nes	4 434 177	299 895	9 858 092	623 694	8 775 708	496 055	9 638 405	588 396
030611:Frozen rock lobster and other sea crawfish	21 717	877	81 428	616	7 087	38	2 597 384	15 440
030612:--Lobsters (HOMARUS SPP)	25 884 966	155 965	49 289 502	229 330	20 165 929	165 854	6 638 833	43 576
030613:Frozen shrimps and prawns	439 202	6 896	551 515	6 589	921 417	10 870	767 387	15 053
030614:Frozen crabs	35 524 261	1 019 313	40 830 877	937 922	28 562 328	802 657	35 657 183	1 159 223
030621:Rock lobster and other sea crawfish (excl. frozen)	1 852 525	5 760	140	10	571 414	3 045	1 809 959	9 205
030622:Lobsters (HOMARUS SPP)	0	0	6 072	27	11 584	50	392 097	1 568
030623:Shrimps and prawns	52 828	994	97 997	1 903	247 615	3 024	170 393	3 802
030624:--Crabs	8 572	559	9 287 482	326 157	41 196 770	830 977	22 984 650	717 923
030710:-Oysters	13 631 702	415 153	13 714 499	476 207	11 642 931	361 221	11 290 157	339 182
030721:--Live, fresh or chilled	1 170 619	14 880	798 011	12 014	289 758	4 374	904 742	12 845
030739:--Other mussels	126 853	13 737	75 672	1 222	87 161	1 537	82 403	31 456
030741:Cuttle fish and squid, live, fresh or chilled	94 861	25 782	3 953	110	610 429	35 694	435 415	13 497
030749:--Other cuttle fish and squid	1 172 581	102 432	2 182 738	177 886	28 065 109	772 847	68 742 982	1 820 915
030759:--Other octopus	884 693	49 783	2 841 555	165 267	2 481 559	88 229	782 508	34 881
030791:Aquatic invertebrates (excluding crustaceans), live, fresh or chilled, nes	507 011	17 662	30 290	2 045	1 195 328	5 470	203 702	1 424
TOTAL	**3 140 038 374**	**322 185 757**	**4 228 873 584**	**1 087 512 642**	**4 581 966 042**	**264 527 436**	**4 804 168 871**	**261 307 590**

Source: National Planning Commission, Central Bureau of Statistics, September 2011.

Appendix 4 Ports and Harbours Cargo and Vessel Traffic during 2009

Cargo handled at the Ports of Walvis Bay and Luderitz

	Sep/Aug 03/04	Sep/Aug 04/05	Sep/Aug 05/06	Sep/Aug 06/07	Sep/Aug 07/08	Sep/Aug 08/09
Cargo landed						
Bulk and Breakbulk	392,159	414,503	488,456	568,658	595,116	626,628
Containerised	314,512	331,814	517,987	781,057	1,068,899	1,294,881
Sulphuric Acid	220,954	206,520	177,512	290,047	381,839	264,428
Petroleum landed	715,129	831,298	866,640	766,450	784,625	934,950
Total	**1,642,754**	**1,784,135**	**2,050,595**	**2,406,212**	**2,830,479**	**3,120,887**
Cargo shipped						
Bulk and Breakbulk	1,037,475	990,883	810,324	995,269	990,669	918,281
Containerised	222,106	308,837	413,044	327,665	430,164	520,669
Total	**1,259,581**	**1,299,720**	**1,223,368**	**1,322,934**	**1,420,833**	**1,438,950**
Cargo transhipped						
Bulk and Breakbulk	33,879	20,041	11,982	5,021	6,847	4,770
Containerised	138,236	307,859	317,185	502,314	432,183	819,274
Total	**172,115**	**327,900**	**329,167**	**507,335**	**439,030**	**824,044**
Total cargo handled	**3,074,450**	**3,411,755**	**3,603,130**	**4,236,481**	**4,690,342**	**5,383,881**

Containers handled at the Ports of Walvis Bay and Luderitz
(Twenty-foot Equivalent Units)

Landed	21,959	24,433	29,482	28,163	42,062	54,729
Shipped	19,980	23,618	27,926	28,101	36,518	55,330
Transhipped	13,073	29,559	36,777	91,970	105,025	154,165
Total Teu's	**55,012**	**77,610**	**94,185**	**148,234**	**183,605**	**264,224**

Vessel visits Walvis Bay and Luderitz

Number	**3,187**	**2,399**	**2,439**	**2,384**	**2,509**	**2,716**

Appendix 5 Respondents by Sector

Key sector stakeholders who responded to questionnaires and helped inform and guide activities to develop the Occupational Framework exercise, included:

Name	Organisation	Position	Sector	Email or telephone number
Pieter Lubbe	Hangana Seafood	Training & Development	Demersal	pieter.lubbe@olfitra.com.na
Rodrick Augustus	Blue Sea Fishing	HR Manager	Demersal	rodrick@blueseafishing.com
Benita Bohmcker	Gendev Fish Processors	HR Officer	Demersal	benita@gendev.com.na
Joan Bussel	Etale Fishing Company	HR Manager	Demersal	joan@etalefishing.com
Hituvali Martha Shikongo	Tunacor Fisheries	HR Manager	Demersal	MarthaG@Tunacor.com.na
Ronnie Coppin	Seaflower Group	Chief Executive	Demersal	ronniec@seaflower.com.na
Goretti Jansen	Seawork Fish Processors	HR Manager	Demersal	Goretti@seawork.com.na
Marlene Kaempffer	Merlus Management	HR Manager	Demersal	marlene@merlus.com.na
Bernard Grove	Etosha Fishing	Finance Manager	Pelagic (Small)	bgrove@etoshafishing.com.na
Lovena Plato	Etosha Fishing	HR Manager	Pelagic (Small)	+264-64-215600
Janette van der Westhuizen	United Fishing Enterprises	HR Manager	Pelagic (Small)	Janette.va.der.West@ufefish.com
Yvonne Roodt	United Fishing Enterprises	Factory Manager	Pelagic (Small)	Yvonne.roodt@ufefish.com
Sydney !Ganeb	Corvima Fishing	General Manager	Pelagic (Large)	sydney@corvima.com.na
Kurt Laufer	Marco Fishing	General Manager	Pelagic (Large)	kurtl@marcofishing.com.na
Calie Jacobs	Erongo Marine Enterprises	General Manager	Midwater Trawl	cjacobs@erongo.co.za
Azalia Arendse	Erongo Marine Enterprises	HR Manager	Midwater Trawl	azarendse@erongo.co.za
Edwin Kamatoto	NAMSOV Fishing Enterprises	HR Manager	Midwater Trawl	edwin.kamatoto@namsov.com.na
Henning du Plessis	Tetelestai Mariculture	General Manager	Aquaculture (Mariculture)	Henning.du.Plessis@namsov.com.na
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Appendix 6 Questionnaire Templates

Sector: COMMERCIAL FISHING			SUB-SECTOR: MARINE CAPTURE FISHING			SPECIALISED AREA: DEMERSAL		
Whom of the following do you employ?			How many do you employ?	What NQF level applies?	What are the qualification(s) requirement(s)?	Indicative sector skills shortages (Please indicate in numbers)		
OCCUPATIONAL TITLE	YES	NO				Current	5 years	10 years
1 **Captain** Manage vessel operations to ensure achievement of stated Key Performance Indicators and legislative compliance.								
2 **First Mate** Manage the deck and factory during vessel operations to ensure achievement of stated Key Performance Indicators and legislative compliance.								
3 **Second Mate – Bosun** Supervise deck and factory during vessel operations to ensure achievement of stated Key Performance Indicators and legislative compliance.								

Whom of the following do you employ?			How many do you employ?	What NQF level applies?	What are the qualification(s) requirement(s)?	Indicative sector skills shortages (Please indicate in numbers)		
OCCUPATIONAL TITLE	YES	NO				Current	5 years	10 years
4 **Cook**								
5 **2nd Cook**								
6 **Galley Boy**								
7 **Steward**								
8 **Fishing Deckhand** Fishing deckhands shoot and haul in the nets on inshore and deep-sea fishing vessels. They may also process fish.								
9 **Winch Operator** Operates the trawl winch on a fishing vessel.								
10 **Chief Engineer** Manage the engineering systems of the vessel in order to ensure achievement of stated Key Performance Indicators and legislative compliance.								

Whom of the following do you employ?			How many do you employ?	What NQF level applies?	What are the qualification(s) requirement(s)?	Indicative sector skills shortages (Please indicate in numbers)		
OCCUPATIONAL TITLE	YES	NO				Current	5 years	10 years
11 **Second Engineer** Assist the Chief Engineer to manage the engineering systems of the vessel in order to ensure achievement of stated Key Performance Indicators and legislative compliance.								
12 **Greaser** Cleans the plant machinery, checks systems and assists with engineering tasks.								
13 **Jetty Charge Hand** Ensure efficient carrying out of daily functions and instructions given by superior regarding company and private vessels. Plan, organize and control the jetty team and their motivation to achieve maximum output.								
14 **Superintendent Netloft** Manage the entire Net loft functions, including the planning and making of the Nets, as well as all reporting functions.								

Whom of the following do you employ?			How many do you employ?	What NQF level applies?	What are the qualification(s) requirement(s)?	Indicative sector skills shortages (Please indicate in numbers)		
OCCUPATIONAL TITLE	YES	NO				Current	5 years	10 years
15 **Jetty Worker** To assist and perform general duties around and on the Jetty under instruction of the Jetty Charge-hand. Discharge and sort fish from vessel and supply factory with product according to HACCP standards. Must clean vessels according to hygiene standards.								
16 **Team Leader Netloft** Good understanding of making nets. Supervises the net making team.								
17 **Net Repairer** Planning, repairing and maintenance of nets to a given quality of net making.								
18 **Fleet Operations Supply Superintendent** Ensure that RM evaluation is done in accordance with set standard. Ensure compliance to S.O.P. in order to maximize quality of RM throughout the supply chain.								

Whom of the following do you employ?			How many do you employ?	What NQF level applies?	What are the qualification(s) requirement(s)?	Indicative sector skills shortages (Please indicate in numbers)		
OCCUPATIONAL TITLE	YES	NO				Current	5 years	10 years
19 **Fleet Technical Superintendent** Coordinate and ensure the effective running of all fleet technical departments and workshops.								
20 **Fleet Technical Foreman** Oversee execution of contractors & relevant projects in fleet technical area as well as the effective running of the workshops.								
21 **Marine Electrician** Ensure that all electrical equipment on the vessels are maintained and remain in good working condition. Ensure electricity safety, Health and Safety procedures are adhered to.								
22 **Assistant Marine Electrician** Assist the Marine Electrician with all electrical equipment on the vessel.								

Whom of the following do you employ?			How many do you employ?	What NQF level applies?	What are the qualification(s) requirement(s)?	Indicative sector skills shortages (Please indicate in numbers)		
OCCUPATIONAL TITLE	YES	NO				Current	5 years	10 years
23 **Marine Fitter** Responsible for overall critical, preventative and corrective maintenance of allocated vessel in the company fleet.								
24 **Assistant Marine Fitter** Receive, store and issue marine tools and equipment in the marine workshop. Maintain the smooth running of stores.								
25 **Maintenance Planner** To drive, manage and maintain the SAP plant maintenance process.								
26 **Fuel Attendant** Order and receive fuel and oil stocks. To issue relevant quantities to fleet as ordered and to book it out to relevant vessels.								
27 **Assistant Fuel Attendant** To assist the fuel attendant with the ordering and receiving of fuel and oil stock and issuing the relevant quantities to fleet.								

Whom of the following do you employ?			How many do you employ?	What NQF level applies?	What are the qualification(s) requirement(s)?	Indicative sector skills shortages (Please indicate in numbers)		
OCCUPATIONAL TITLE	YES	NO				Current	5 years	10 years
28 **Crane Indicator** Ensure the safe and correct discharge of seafood, by giving the correct hand signals to the crane driver.								
29 **Crane Operator** Responsible for the off-loading of wet and frozen fish from trawlers and the loading of ice bins onto the trawlers as well as the loading and off-loading of parts and spares from vessels.								

Industry priorities:

What do you consider as industry key priorities in terms of training needs and development?

QUESTIONNAIRE						
Sector 1: REGULATORY AUTHORITIES	**Job title**		**Training need requirements within the Directorates and their Subdivisions**	**Indicative skills shortage by position (Please indicate in numbers)**		
				Current	**5 years**	**10 years**
MINISTRY OF FISHERIES AND MARINE RESOURCES **Dept Technical Operations, Planning & Resource Mgmt**	1	Under Secretary 5A (M)				
Directorate Resource Mgmt	2	Director 4B (M)				
Division Research Mgmt	3	Deputy Director 4A (M)				
(Subdivision Demersal)	4	Chief Fisheries Biologist 4A L1				
	5	Principal Fisheries Biologist SP3 L1				
	6	Senior Fisheries Biologist 3B L1				
	7	Fisheries Biologist 3A L1				
	8	Fisheries Research Technician 2C L1				

	9	Chief Technical Assistant 2A L2				
	10	Technical Assistant 1C L3				
(Subdivision Pelagic)	11	Chief Fisheries Biologist 4A L1				
	12	Principal Fisheries Biologist SP3 L1				
	13	Senior Fisheries Research Technician SP2 L1				
	14	Senior Fisheries Biologist 3B L1				
	15	Chief Fisheries Research Technician 3A L2				
	16	Fisheries Biologist 3A L1				
	17	Fisheries Research Technician 2C L1				
	18	Chief Technical Assistant 2A L2				
	19	Technical Assistant 1C L3				
(Subdivision Stock Assessment)	20	Principal Fisheries Biologist SP3				
	21	Fisheries Biologist 3A L1				
Directorate	22	Director 4B (M)				

Aquaculture	23	Private Secretary 2C L2				
Division Research, Monitoring, Disease & Quality Control	24	Deputy Director Gr: 4A (M)				
Subdivision: Swakopmund NATMIRC Regional Office	25	Chief Fisheries Biologist 4A L1				
	26	Fisheries Biologist 3B L1				
	27	Fisheries Biologist 3A L1				
	28	Chief Fisheries Research Technicial 3A L2				
	29	Fisheries Research Technician 2C L1				
	30	Chief Technical Assistant 2A L2				
	31	Technical Assistant 1C L3				
	32	Clerk 1C L2				
Subdivision: Luderitz Regional Office	33	Principal Fisheries Biologist SP3				
	34	Fisheries Research Technician SP2				
	35	Fisheries Research Technician 2C L1				
	36	Technical Assistant 1C				

		L3				
Division Research, Training, Monitoring & Extension (Hardap)	37	Fisheries Biologist 4A L (P)				
	38	Fisheries Biologist 3A L1				
	39	Fisheries Research Technician SP2				
	40	Fisheries Research Technician 2C L1				
	41	Clerical Assistant 1C L2				
	42	Driver 1B L3				
	43	Labourer 1B L1				
	44	Handyman 1B L3				
Division Inland Aquaculture Centre	45	Fisheries Biologist 4A L1 (P)				
Subdivision Onavivi Regional Office	46	Senior Fisheries Biologist 3B L1				
	47	Fisheries Biologist 3A L1				
	48	Fisheries Research Technician SP2				
	49	Fisheries Research Technician 2C L1				
	50	Technical Assistant 1C L3				
	51	Clerical Assistant 1B L3				
	52	Handyman 1B L2				

	53	Labourer 1A L1				
Subdivision Ongwediva Regional Office	54	Principal Fisheries Biologist SP3				
	55	Fisheries Biologist 3A L1				
	56	Chief Fisheries Research Technical 3A L2				
	57	Fisheries Research Technician SP2				
	58	Fisheries Research Technician 2C L1				
	59	Technical Assistant 1C L3				
	60	Clerical Assistant 1C L2				
	61	Handyman 1B L2				
	62	Labourer 1A L1				
Division Kamutjonga Research & Training Centre	63	Deputy Director 4A (M)				
Subdivision Research and Training	64	Fisheries Biologist 4A L1 (P)				
	65	Fisheries Biologist 3B L1				
	66	Fisheries Biologist 3A L1				
	67	Fisheries Research Technician 2C L1				

	68	Technical Assistant 1C L3				
	69	Workhand 1B L1				
	70	Labourer 1A L1				
Section Extension Services (KIFI)	71	Fisheries Biologist 3B L1				
	72	Fisheries Biologist 3A L1				
	73	Fisheries Research				
	74	Technician 2C L1				
	75	Technical Assistant 1C L3				
	76	Workhand 1B L1				
	77	Labourer 1A L1				
Subdivision Rundu Regional Office	78	Fisheries Biologist 4A L1 (P)				
	79	Fisheries Biologist 3B L1				
	80	Fisheries Biologist 3A L1				
	81	Fisheries Research Technician 3A L2				
	82	Fisheries Research Technician 2C L1				
	83	Technical Assistant 1C L3				
	84	Driver 1B L3				
	85	Clerical Assistant 1C L2				
Subdivision	86	Fisheries Biologist 4A				

Katima Mulilo Regional Office		L1 (P)				
	87	Fisheries Biologist 3B L1				
	88	Chief Fisheries Research Technical 3A L2				
	89	Fisheries Research Technician SP2				
	90	Fisheries Research Technician 2C L1				
	91	Technical Assistant 1C L3				
	92	Clerical Assistant 1C L2				
	93	Workhand 1B L1				
Directorate Operations	94	Director 4B (M)				
Division Monitoring, Control, & Surveillance	95	Deputy Director 4A (M)				
	96	Clerical Assistant 1C L2				
	97	Drivers 1B L3				
Division Inspectorate	98	Chief Control Fisheries Inspector 3B L1				
Section Luderitz Inspectorate	99	Control Fisheries Inspector 3A L1				
	100	Chief Fisheries Inspector SP2 L1				
	101	Senior Fisheries Inspector 2C L1				
	102	Fisheries Inspector 2B L1				
	103	Chief Clerk 2C L2				

	104 Clerk 2A L1				
	105 Drivers 1B L3				
	106 Labourer 1A L1				
	107 Clerk Assistant 1C L2				
	108 Statistical Clerk 2A L1				
Section Walvis Bay Inspectorate	109 Control Fisheries Inspector 3A L1				
	110 Chief Fisheries Inspector SP2 L1				
	111 Senior Fisheries Inspector 2C L1				
	112 Fisheries Inspector 2B L1				
	113 Chief Clerk 2C L2				
	114 Clerk 2A L1				
	115 Clerical Assistant 1C L2				
	116 Drivers 1B L3				
	117 Switchboard Operator 1B L1				
	118 Cleaner 1A L1				
Section Surveillance & Operation	119 Control Fisheries Inspector 3A L1				
	120 Chief Fisheries Inspector SP2 L1				
	121 Senior Fisheries Inspector 2C L1				
	122 Fisheries Inspector 2B L1				
	123 Chief Radio Attendant 2A L3				

	124 Radio Attendant 2A L1				
Section Inland Fisheries Inspectorate	125 Control Fisheries Inspector 3A L1				
	126 Chief Fisheries Inspector SP2 L1				
	127 Senior Fisheries Inspector 2C L1				
	128 Fisheries Inspector 2B L1				
Division Technical Services	129 Deputy Director 4A (M)				
Subdivision Air Wing	130 Pilot 4A L1 (P)				
	131 Pilot 3B L3				
	132 Senior Aircraft Maintenance Engineer SP3				
	133 Aircraft Maintenance Engineer 3B L1				
	134 Radar Operator 3A L2				
	135 Clerk 2A L1				
	136 Workhand 1B L1				
Subdivision Vessels	137 Marine Superintendant 4B L1				
	138 Chief Clerk 2C L2				
	139 Clerk Assistant 1C L2				
Patrol Vessel	140 Deck Officer Class II 4A				

Nathaniel Maxuilili		L2				
	141	Boatswain 2B L1				
	142	Able Seaman 2A L3				
	143	Seaman 2A L2				
	144	Engine Room Attendant 2A L3				
	145	Deck Officer Class III SP3				
	146	Deck Officer Class 4 3BL3				
	147	Engineer Officer Class II 4A L1				
	148	Engineer Officer Class III SP3				
	149	Engineer Officer Class IV 3BL3				
	150	Senior Ship's Cook 2B L1				
	151	Ship's Cook 2A L3				
	152	Engine Room Attendant 2A L2				
Patrol Vessel Anna Kakurukaze Mungunda	153	Deck Officer Class II 4A L2				
	154	Deck Officer Class III SP3				
	155	Boatswain 2B L1				
	156	Able Seaman 2A L3				
	157	Seaman 2A L2				
	158	Senior Engine Room Attendant 2A L3				
	159	Deck Officer Class 4 3BL3				

	160	Engineer Officer Class II 4A L1				
	161	Engineer Officer Class III SP3				
	162	Engineer Officer Class IV 3BL3				
	163	Ship's Cook 2B L1				
	164	Ship's Cook 2A L3				
	165	Engine Room Attendant 2A L2				
Directorate Policy, Planning, & Economics	166	Director 4B (M)				
	167	Deputy Director 4A (M)				
Policy Division	168	Chief Policy Analyst SP3 L1				
	169	Policy Analyst 3B L2				
Division Statistics	170	Chief Statistician 3B L1				
	171	Clerk 2A L1				
	172	Data Typist 1C L1				
	173	Statistician SP2 L1				
	174	Statistical Clerk 2A L1				
Division Economics	175	Chief Economics 3B L1				
	176	Economist SP2 L1				
Division Fisheries Administration	177	Chief Control Officer 3B L1				
	178	Control Officer 3A L1				

	179 Chief Clerk 2C L2				
	180 Clerk 2A L1				
Division Planning	181 Chief Development Planner 3B L1				
	182 Development Planner SP2 L1				
Division Information Technology	183 Deputy Director: System Administration 4A (M)				
	184 Chief Analyst Programmer SP3 L1				
	185 System Administrator 3B L1				
	186 Analyst Programmer 3A L1				
	187 Computer Technician 2C L1				
Division General Services, Subdivision Training	188 Chief Training Officer 3B L2				
	189 Training Officer 3A L2				
ANY OTHER	190				
	191				
	192				

In the following questionnaire, all identified positions in the Commercial Fishing and Ports and Harbours sectors were identified, training provider NAMFI then being requested to list the training courses they offered to applicable positions. To save space, only those positions where NAMFI identified that they have relevant training courses are listed below.

QUESTIONNAIRE – TRAINING PROVIDER NAMFI

Sector 1: COMMERCIAL FISHING	For which of the following do you offer training courses?			What is the title of the Qualification being awarded?	Is the course accredited?		Intake per annum	Output per annum (Qualified)
	OCCUPATIONAL TITLE	YES	NO		YES	NO		
Marine capture fishing	1 **Skipper** In command of the fishing vessel and responsible for its safe and efficient operation, aspects of health and safety, crew and vessel management.							
	2 **Mate** Acts as chief watch commander of the vessel. Often tasked with the responsibility for ensuring that the fishing gear operates correctly and that the catch is stored properly.							
	3 **Bosun** Foreman of the vessel crew and expected to have a high level of seamanship skills. Responsible for smooth deck operations							

	4 **Competent Deckhand** Responsible for health and safety, preparing the deck and equipment for the catch, operating and repairing fishing gear and other equipment used for shooting, hauling, gutting and storing fish.							
	5 **Fishing Deckhand** Shoot (cast) and haul in the nets, lines or pots on fishing vessels. They may process fish.							
	6 **Engineer (Class 4)** Undertakes engineering duties such as maintaining, servicing and repairing, testing and diagnosing faults with all mechanical and electrical equipment aboard the vessel according to his/her level of qualification (Class 4, 5, or 6).							
	7 **Engineer (Class 5)** Undertakes engineering duties such as maintaining, servicing and repairing, testing and diagnosing faults with all mechanical and electrical equipment aboard the vessel according to his/her level of qualification (Class 4, 5,							

	or 6).							
8	**Engineer (Class 6)** Undertakes engineering duties such as maintaining, servicing and repairing, testing and diagnosing faults with all mechanical and electrical equipment aboard the vessel according to his/her level of qualification (Class 4, 5, or 6).							
9	**Greaser** Supports the engineer as directed. Cleans the machinery plant, check systems and assists with engineering tasks.							
10	**Marine Electrician** Ensure that all electrical equipment on the vessels are maintained and remain in a good working condition at all times. Ensure electricity safety, Health and Safety procedures are adhered to.							
11	**Marine Fitter** Responsible for overall critical, preventative and corrective maintenance of allocated vessel in the company fleet.							

	12	**Welder** Appropriate technical condition of welding equipment and instruments; to perform electrogas (oxygen, acetylene, argon) welding works; to participate in works on service and repair. Is bound to have skills of the fitter.							
	13	**Turner** Ensure appropriate condition of tools and equipment in engineering workshop.							
	14	**Joiner / Fitter** Fulfil metalwork and installation, assist in repair							
	15	**Crane Operator** Responsible for the off-loading of wet and frozen fish from trawlers and the loading of ice bins onto the trawlers as well as the loading and off-loading of parts and spares from vessels.							

Sector 2: SEAFOOD PROCESSING	For which of the following do you offer training courses?			What is the title of the Qualification being awarded?	Is the course accredited?		Intake per annum	Output per annum (Qualified)
	OCCUPATIONAL TITLE	YES	NO		YES	NO		
Pelagic, Demersal, Midwater	1 Supervisor – Cleaning and Sanitation							
	2 Marine HACCP Controller							

Sector 4: PORT & HARBOUR	For which of the following do you offer training courses?			What is the title of the Qualification being awarded?	Is the course accredited?		Intake per annum	Output per annum (Qualified)
	OCCUPATIONAL TITLE	YES	NO		YES	NO		
Bulk & Break bulk	1 **Manager: Bulk & Break bulk**							
	2 **Head: Bulk & Break bulk** Supervises day-to-day vessel and operational planning processes in order to fully optimize resources within the parameters of customer requirements and Namport business objectives.							
	3 **Equipment Coordinator (Bulk & Break bulk)** Guides Equipment Operators in ensuring that the operation meets the priorities of the operational plan and maximize the terminal's productivity.							
	4 **CAT 3 - Mechanical Lifting Operator** Operates the mechanical lifting equipment by loading and offloading cargo and placing within the port area							
	5 **CAT 5 – Mechanical Lifting Operator** Transports, loads, and offloads cargo within the port area							

	6	**Cargo Coordinator** Plans, organises and controls daily activities of all relevant staff assigned to specific task or operation							
	7	**Tally Clerk** Checks, counts and records full particulars of all types of cargo and containers stored and shipped within the port.							
	8	**Manifest Clerk** Receives landing and shipping documents from Marketing and to deliver break bulk.							
	9	**General Worker / Senior** Performs all general work/duties pertaining to Cargo Services							

Sector 4: PORT & HARBOUR	For which of the following do you offer training courses?			What is the title of the Qualification being awarded?	Is the course accredited?		Intake per annum	Output per annum (Qualified)
	OCCUPATIONAL TITLE	YES	NO		YES	NO		
Engineering	1 **Marine Engineers up to class 4**							

Sector 4: PORT & HARBOUR	For which of the following do you offer training courses?			What is the title of the Qualification being awarded?	Is the course accredited?		Intake per annum	Output per annum (Qualified)
	OCCUPATIONAL TITLE	YES	NO		YES	NO		
Marine	1 **Chief Marine Engineering Officer** Operates and maintains all marine engineering assets							
	2 **Marine Engineering Officer** Operates and maintains all marine engineering and electrical systems on marine engineering assets							
	3 **Marine Mechanic** Assists the Marine engineer with the maintenance of all electrical equipment							
	4 **Motorman**							
	5 **Dual Purpose Rating**							

Sector 4: PORT & HARBOUR	For which of the following do you offer training courses?			What is the title of the Qualification being awarded?	Is the course accredited?		Intake per annum	Output per annum (Qualified)
	OCCUPATIONAL TITLE	YES	NO		YES	NO		
Technical Services	1 **Fitter & Turner**							
	2 **Boilermaker**							
	3 **Welder**							

ANY OTHER INFORMATION:

Appendix 7: MFMR Vessel Details per Fishery for Vessels Licensed for 2012 and Manning Requirements for Vessels

DEMERSAL – Hake Wetfish Bottom Trawl Vessels (fish brought ashore on ice)

Number of Vessels Namibian : Foreign	Length (metres)	Date Built	Gross Registered Tonnes	Horsepower	Number of Crew Namibian : Foreign
53: 5	21.74 – 74.69	1965 – 2002	149.37 – 1774.00	459- 2700	1304 : 115

DEMERSAL – Hake Freezer Bottom Trawl Vessels (fish brought ashore frozen)

Number of Vessels Namibian : Foreign	Length (metres)	Date Built	Gross Registered Tonnes	Horsepower	Number of Crew Namibian : Foreign
9 : 1	32.98 – 73.67	1974 – 1985	441 – 1780	1125 - 3000	396 : 46

DEMERSAL – Hake Wetfish Longline Vessels (fish brought ashore on ice)

Number of Vessels Namibian : Foreign	Length (metres)	Date Built	Gross Registered Tonnes	Horsepower	Number of Crew Namibian : Foreign
12: 0	19.91 – 32.09	1963 – 2002	99.97 – 446.00	346 - 2000	307 : 8

DEMERSAL – Monk and Sole Freezer Bottom Trawl Vessels (fish brought ashore frozen)

Number of Vessels Namibian : Foreign	Length (metres)	Date Built	Gross Registered Tonnes	Horsepower	Number of Crew Namibian : Foreign
14 : 1	19.25 – 34.75	1950 – 2000	84.52 – 504	405 – 1500	231: 17

PELAGIC – Small Pelagic Pilchard Purse-Seine Vessels (fish brought ashore in refrigerated seawater)

Number of Vessels Namibian : Foreign	Length (metres)	Date Built	Gross Registered Tonnes	Horsepower	Number of Crew Namibian : Foreign
8 : 0	39.97 – 48.90	1960 – 1996	118.53 – 613.54	457 – 2481	102 : 1

PELAGIC – Large Pelagic Longline Freezer Vessels (fish brought ashore frozen)

Number of Vessels Namibian : Foreign	Length (metres)	Date Built	Gross Registered Tonnes	Horsepower	Number of Crew Namibian : Foreign
10 : 10	16.12 – 49.00	1973 – 2008	47.27 – 789.00	179 – 1800	276 : 124

PELAGIC – Large Pelagic Pole and Line Wetfish Vessels (fish brought ashore on ice)

Number of Vessels Namibian : Foreign	Length (metres)	Date Built	Gross Registered Tonnes	Horsepower	Number of Crew Namibian : Foreign
6 : 9	17.39 – 28.85	1962 – 2011	41.31 – 224.85	179 – 570	200 : 72

PELAGIC – Large Pelagic Pole and Line Freezer Vessels (fish brought ashore frozen)

Number of Vessels Namibian : Foreign	Length (metres)	Date Built	Gross Registered Tonnes	Horsepower	Number of Crew Namibian : Foreign
4 : 25	9.5 – 28.25	1952 – 2009	26.56 – 224.58	161 – 640	292 : 280

MIDWATER TRAWL – Horse Mackerel Freezer Vessels (fish brought ashore frozen)

Number of Vessels Namibian : Foreign	Length (metres)	Date Built	Gross Registered Tonnes	Horsepower	Number of Crew Namibian : Foreign
0: 13	36.8 – 117.2	1982 – 1991	504 – 6785	2500 – 7000	524 : 365

Certificated officers in charge of engineering watches on fishing vessels of 350 kW or more operating outside the defined fishing zone

Column 1 Item	Column 2 Registered power of vessel (kW)	Column 3 Class of certificates					
		1	2	3	4	5	6
PART A	**Attended machinery spaces**						
1	3000 kW or more	1	1	-	2	-	-
2	750 kW or more but less than 3000 kW	-	1	1	1	-	-
3	750 kW or less	-	-	1	1	-	-
PART B	**Periodically unattended machinery spaces**						
4*	3000 kW	1	1	-	1	-	-
5*	750 kW or more but less than 3000 kW	-	1	1	-	-	-
6*	750 kW or less	-	-	1	-	1	-

Notes:

The * in items 4,5,and 6 means that no vessel with more than 750 kW power shall operate without being periodically attended while sailing –

(a) in and out of a port;
(b) within 3 nautical miles of the safety zone of an offshore installation;
(c) in high traffic density; and
(d) in reduced visibility.

Certificated officers in charge of navigational watches on fishing vessels

Column 1 Item	Column 2 Length of vessel	Column 3 Class of certificates	
		Deck Officer 5 Skipper or mate class I-F	Deck Officer 6 Skipper or mate class II-F
1	24 m or more	2	1
2	12 m or more but less than 24 m	-	2
3	12 m or less, more than 16 hours	Two persons holder of the “Small boat Certificate”	
4	12 m or less, less than 16 hours	One person holder “Small boat Certificate”	

Certificated officers in charge of engineering watches on fishing vessels of 350 kW or more operating within defined fishing zone

Column 1 Item	Column 2 Power of engine	Column 3 Class of certificates					
		1	2	3	4	5	6
1	3000 kW or more	-	1	1	1	-	-
2	750 kW or more but less than 3000 kW	-	-	-	1	1	-
3	350 kW or more but less than 750 kW	-	-	-	-	1	1

Minimum Safe Manning Certificate for Midwater Trawl – Horse Mackerel Vessel (generalised)

Grade / Capacity	STCW	No.	Grade / Capacity	STCW	No.	Grade / Capacity	STCW	No.
Master	II / 2	1	Chief Engineer	III / 2	1	Deck Rating – watch	II / 4	3
Chief Mate	II / 2	1	Second Engineer	III / 2	1	Deck Rating	-	1
Deck Officer	II / 1	2*	Engineer Officer	III / 1	1**	Engine rating – watch	III / 4	1**
Radio Officer	-	-				Engine Rating	-	1
Cook	-	1				Other	-	-

Notes:
* May be 1 if Master keeps watch or where the length of voyage is short enough to ensure adequate rest periods.
** N/A if the length of voyage is short enough to ensure adequate rest periods.

Appendix 8: Footnotes from ISC Meeting of 16 April 2012

The consultants stated that the questionnaire responses comprised the whole of Ports and Harbour as Namport is currently the controlling authority. Regarding Commercial Fishing, there were 23 respondents, 6 people responded from the different Regulatory Authorities, and 3 from NAMFI. Figures on skills gaps were not available from the Ministry of Fisheries and Marine Resources (Directorate of Operations).

It was felt that the figures from questionnaire responses were not necessarily representative in all areas. For example, it was pointed out by the ISC with regard to Maritime Capture Industry questionnaire responses, that the numbers of Captains and stated skills shortages was not representative. Consequently it was requested that fishing vessels numbers by length be obtained from the Ministry of Fisheries and Marine Resources, as well as their manning requirements. These are now listed in Appendix 7.

The fishing industry is currently saturated with Class 6 graduates from NAMFI. Often these graduates have never been to sea, and when they do, they discover they do not like it. Fishing industry members of the ISC were of the view that it is better to pull promising crew off vessels, and send them to NAMFI for training as they have already proved themselves at sea. At Class 4 level, it is hard to get tuition for promising industry personnel as NAMFI require a minimum number of class attendees before it is worthwhile providing the course.

There are skilled local maritime personnel who are nearing retirement age, or have retired, and it was felt they could be approached to provide specialist training courses at NAMFI. Also within NAMPORT personnel there are senior deck officers with Class 1-4 qualifications. There is the potential for NAMPORT through a memorandum of agreement between NAMPORT and NAMFI to release these personnel on occasions to assist with training at NAMFI.

It is crucial that stakeholders sit around the table with NAMFI, and strategise forward.

It was also pointed out that “industry” is a training provider at the practical level. Regarding foreigners on vessels in senior positions, there is very limited follow-up on Namibian understudies, to see how effectively they are being trained. This training should be measurable, where the foreign Captain for example must follow a fixed curriculum that he is accountable for, when training understudies. Assessors should be put in place to promote quality training.

As a future strategy, engineers as an example, to get broader practical experience, should be able to work at local support service providers such as engineering workshops.

It was also questioned whether NAMFI, which currently comes under the responsibility of the Ministry of Fisheries and Marine Resources, would be better to be responsible to the Ministry of Education. This way it would have stronger links to the Namibian Training Authority, and would hopefully consequently financially benefit from industry levies paid to the NTA.

With regards training of Fisheries Observers, fishing industry representatives at the ISC meeting felt that since industry paid for the observers to be onboard the vessels, the industry should get a return. Currently the emphasis by Fisheries Observers is on compliance, so they are well trained in this area. As a consequence in the future it was felt that 20% of training effort should be directed at compliance, and 80% should be directed at scientific sampling of fish to facilitate better fish stock management.

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